STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Illinois-American Water Company	:	
	:	09-0319
	:	
Proposed general increase in water and sewer rates.	:	
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INITIAL BRIEF OF THE STAFF
OF THE ILLINOIS COMMERCE COMMISSION

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Pursuant to 83 Ill. Adm. Code 200.800, Staff of the Illinois Commerce Commission ("Staff"), by and through its undersigned attorneys, hereby submits its Initial Brief in the instant proceeding.

I. INTRODUCTION

A. Background

On May 29, 2009, Illinois-American Water Company ("IAWC," "Illinois-American" or the "Company") filed for approval with the Illinois Commerce Commission ("Commission" or "ICC") a proposed general increase in water and wastewater rates pursuant to Article IX of the Illinois Public Utilities Act, (the "Act"), 220 ILCS 5/101 et seq. In its initial filing, the Company indicated that the new rates were designed to produce additional revenues of approximately $59 million, which were needed to provide the revenue requirements of the Company's service areas and would affect approximately 317,000 customers.

Illinois-American also indicated that, since its last rate case, Docket No. 07-0507,

the Company had experienced increased operating expenses, and substantially increased rate base. IAWC stated that it had implemented a number of operational changes, added employee positions, and initiated a number of programs designed to maintain and improve customer service. The Company indicated that it had invested and would continue to invest a significant level of capital in required facility additions and infrastructure replacement projects. For the 2007-2010 period, IAWC projected that it would invest over $366 million in needed capital projects. Illinois-American stated that for the test year ending December 31, 2010, the Company's operating expenses, since the test year in its last rate case, increased by approximately $19 million, and that its rate base had increased by over $78 million. Therefore, IAWC concluded that the additional annual revenue of approximately $59 million was needed to afford the Company the opportunity to earn a reasonable rate of return.

Illinois-American proposed percentage revenue increases for its rate areas of 30.30% for Zone 1 (Southern/Pontiac/Streator/Peoria/SouthBeloit/Sterling/Champaign), 35.59% for Lincoln, 30.90% for Pekin, 45.00% for Chicago Metro Water, and 26.07% for Chicago Metro Sewer. IAWC stated that its proposed tariffs reflected changes in rate design, based on a cost of service study prepared for this filing. The Company claimed that its rate design proposals represented updates of rate design proposals it made in the Commission-ordered rate design investigation in Docket No. 08-0463 and complied with the requirements regarding rate design set forth in Docket No. 07-0507.

IAWC stated that in Docket No. 07-0507, the Commission discussed at length general considerations regarding movement towards single tariff pricing ("STP"), as well as a number of specific rate design issues, such as declining block structures, the

movement of fixed charges into the customer charge, and the implementation of demand charges for non-residential customers. Illinois-American indicated that in response to the Commission's stated considerations, the Company reviewed movement towards STP by examining the consolidation of rate areas and the movement towards uniform customer charges, block structures, and usage charges. IAWC proposed several steps towards STP, including moving Sterling and Champaign into Zone 1, and implementing uniform customer charges, block structures and usage charges in Zone 1 (with the exception of the 5/8-inch meter customer charge). The Company also proposed to include additional fixed costs in its customer charge for all rate areas through a phase-in. For all rate areas, Illinois-American proposed a one-block structure for the residential class, which would replace the present declining block structure for that class. IAWC also proposed to set cost-based public fire charges with the exception of Chicago Metro (while retaining the uniform fire protection charge in Chicago Metro), and proposed new sewer rates. IAWC did not propose the expanded use of non-residential demand charges, and stated that it intended to collect demand billing data that would allow implementation of non-residential demand charges where appropriate in the future. Illinois-American also proposed certain rate impact mitigation measures.

B. Procedural History

Notice of the filing of the proposed rate increase was posted in IAWC's District business offices and was published twice in newspapers of general circulation within each District, in accordance with the requirements of Section 9-201(a) of the Act, 220 ILCS 5/9-201(a), and the provisions of 83 Ill. Adm. Code 255. In addition, the Company sent notice of the filing to its customers with the first billing after filing. The notices stated that customers could request a public forum regarding the proposed increase by

making a written request to the Commission in accordance with procedures specified in Section 8-306(n) of the Act, 220 ILCS 5/8-306(n).

The Proposed Tariffs were suspended by the Commission on July 8, 2009, to and including October 25, 2009. On October 7, 2009, the Commission resuspended the Filed Rate Schedule Sheets to and including April 25, 2010.

On July 1, 2009, the Company was notified of certain deficiencies in its filing in accordance with 83 Ill. Adm. Code 285, Standard Filing Requirements for Electric, Gas, Telephone, Water and Sewer Utilities in Filing for an Increase in Rates. The deficiency letter required Illinois-American to provide various revised and additional schedules and omitted information. The Company provided information in response to the deficiency letter on July 29, 2009.

On July 14, 2009, IAWC filed a Motion for Entry of a Protective Order. The Administrative Law Judge ("ALJ") issued a Ruling on August 24, 2009, which stated that IAWC's Motion for Entry of a Protective Order, to which no objections were filed either within 14 days after the filing of the motion or within 14 days after the Prehearing Conference on August 5, 2009, was granted with certain exceptions.

On August 24, 2009, Illinois-American provided an updated filing consisting of supplemental testimony for seven of its witnesses and revised Schedules A, B, C, D, E and G, which reflected significant changes to the Company's test year forecast. On September 22, 2009, the Company provided various corrections to its updated filing consisting of changes to two attachments and 20 schedules. On September 25, 2009, IAWC further provided an auditor's report and associated schedules relating to the Company's updated filing and in support thereof the second supplemental direct

testimony of one of its witnesses.

Public Forums were held at Parkland Community College in Champaign on October 1, 2009, the Mt. Prospect City Council Chambers in Mt. Prospect on October 8, 2009, Homer Jr. High School in Homer Glen on October 19, 2009, Wheaton Community College in Wheaton on November 4, 2009, and Alton Square Meeting Room in Alton on November 9, 2009. The purpose of the public forums was to receive public comments concerning the general increase in water and wastewater rates proposed by IAWC. The public forums were held in conformance with Section 8-306(n) of the Act. A transcript of each public forum was made.

Petitions to Intervene were filed on behalf of the Citizens Utility Board ("CUB"); the City of Champaign ("Champaign"); the Attorney General of the State of Illinois (the "AG"); Melody Fliss; Harold C. Menger; Rosemary Katona; Eileen and Tim Nelson; the City of Pekin; the United States Steel Company-Granite City Works and the University of Illinois, as the Illinois Industrial Water Consumers ("IIWC"); the Village of Bolingbrook ("Bolingbrook"); the City of Peoria; the Village of Woodridge ("Woodridge"); the Village of Mount Prospect ("Mount Prospect"); the Village of Prairie Grove ("Prairie Grove"); the Village of Homer Glen ("Homer Glen"); the City of Des Plaines ("Des Plaines"); the Village of Lemont ("Lemont"); the Village of Tinley Park ("Tinley Park"); the City of Elmhurst; and the City of Urbana, and the Villages of St. Joseph, Sidney, and Savoy.

Pursuant to proper legal notice, a Prehearing Conference was held on August 5, 2009, before a duly authorized Administrative Law Judge ("ALJ") of the Commission at its offices in Springfield, Illinois. At the Prehearing Conference, a procedural schedule was established for the remainder of the proceeding. The procedural schedule was

partially modified by agreement of the parties and approved by the ALJ in a September 30, 2009 Ruling. An additional status hearing was held in this matter on December 4, 2009. Thereafter, evidentiary hearings were held at the Commission's Springfield offices on December 8-10, 2009. Appearances were entered by counsel on behalf of IAWC; IIWC; the AG; CUB; Bolingbrook; the Cities of Champaign and Urbana, and the Villages of Homer Glen, St. Joseph, Savoy and Sidney; the City of Des Plaines; and Staff. The matter was continued generally at the December 10, 2009 evidentiary hearing.

At the evidentiary hearings, Karla O. Teasley, Cheryl Norton, Jeffrey T. Kaiser, Scott Rungren, Edward J. Grubb, Rich Kerckhove, Tyler T. Bernsen, Pauline M. Ahern, Paul R. Herbert, Bernard L. Uffelman, Mark R. Young, John S. Young, J. Rowe McKinley, and James Kalinovich testified on behalf of the Company.

Seven witnesses testified on behalf of Staff. The Staff witnesses included Daniel Kahle and Larry H. Wilcox, Accountants in the Accounting Department of the Financial Analysis Division of the Commission's Bureau of Public Utilities, Sheena Kight-Garlisch and Michael McNally, Senior Financial Analysts in the Finance Department of the Financial Analysis Division, and Philip Rukosuev, Peter Lazare, and Christopher L. Boggs, Rates Analysts in the Rates Department of the Financial Analysis Division.

Scott J. Rubin, Robert Boros, and Avis Gibons testified on behalf of the AG. Ralph C. Smith testified on behalf of the AG/Joint Municipalities.[1] Christopher C. Thomas testified on behalf of CUB. Michael P. Gorman, Brian C. Collins, and Gary Goossens testified on behalf of IIWC. Jim Daley, Mary Niemiec, Michael Schofield, and

[1] The Joint Municipalities include Des Plaines, Bolingbrook, Homer Glen, Lemont, Mount Prospect, Prairie Grove, Woodridge, and the Villages of Glen Ellyn, Lombard, and Orland Hills. The Villages of Glen Ellyn, Lombard, and Orland Hills are not parties to the instant proceeding.

Aaron Fundich testified on behalf of Homer Glen. Jason Bajor and Jon Duddles testified on behalf of Des Plaines. Mayor Irvana K. Wilks testified on behalf of Mount Prospect.

C. Nature of Operations

Illinois-American is a corporation organized and existing under the laws of the State of Illinois with its principal office in the City of Belleville, Illinois. IAWC currently owns, operates, and maintains potable water production, treatment, storage, transmission and distribution systems and wastewater collection, pumping, and/or treatment systems for the purpose of furnishing water and wastewater service for residential, commercial, industrial, and governmental users in its various Districts. IAWC's Districts include: Zone 1 (Southern/Pontiac/Streator/Peoria/SouthBeloit/ Sterling/Champaign), Lincoln, Pekin, Chicago Metro Water and Chicago Metro Sewer. Illinois-American is a wholly-owned subsidiary of American Water Works Company, Inc. ("American Water"), a holding company that owns all of the outstanding stock of IAWC. IAWC contracts for services to be supplied at cost by American Water Works Service Company, Inc. ("Service Company"), which is also a subsidiary of American Water.

D. Proposed Test Year and Revenues

Illinois-American's rate increase request was based on a forecasted or "future" test year consisting of the twelve-month period ending December 31, 2010. In its analysis, Staff accepted the Company's use of the future test year.

II. RATE BASE

A. Introduction

Schedules showing the Company's rate base at present and recommended rates for the test year ending December 31, 2010 were presented by Company and Staff witnesses. Staff proposed a number of adjustments to the Company's proposed rate base.[2]

B. Cash Working Capital

1. Adjustments to Chemical and Waste-disposal Lead/Lags for Cash Working Capital

The Company's calculation of cash working capital ("CWC") was based on the results of a lead-lag study conducted by the Company that analyzed cash transactions and invoices to determine lag times associated with the collection of revenues owed to the Company and lead times associated with the payments for goods and services received by the Company. In Direct Testimony, Staff witness Kahle proposed adjustments to the Company's Cash Working Capital to: (1) reflect all of Staff's proposed changes to those accounts included within the cash working capital calculation, and (2) adjust the lead days for chemical expenses and waste disposal expenses. (Staff Ex. 1.0, pp. 11-12.) Ultimately, Cash Working Capital for each rate area should be adjusted to reflect the respective revenue requirement approved by the Commission. Appendix A presents Cash Working Capital for each rate area reflecting Staff's current respective revenue requirement.

According to Company witness Kerckhove, the Company agreed with Staff's

[2] Staff's schedules in this proceeding used the following rate area/District designations: Total (Total Company), Z1 (Zone 1), CMW (Chicago Metro Water), CMS (Chicago Metro Sewer), P (Pekin), and L (Lincoln).

adjustments to the lead days for chemical and waste disposal expenses. (IAWC Ex. 6.00R1, p. 6.) Mr. Kerckhove also indicated agreement with Staff that Cash Working Capital for each rate area should be adjusted to reflect the respective revenue requirement approved by the Commission. (IAWC Ex. 6.00R1, p. 6.)

C. Plant-in-Service Adjustment

Because the Company's test year ending December 31, 2010 is a future test year, its additions to utility plant-in-service in the test year and in 2009 are simply forecasted amounts that are subject to change as the actual data becomes known. Staff witness Kahle's proposed adjustments to reduce the Company's additions to plant-in-service for the years ending December 31, 2009 and December 31, 2010 were based on the Company's history of actual capital spending compared to planned capital spending for the years 2006, 2007 and 2008. Adjusting the forecasted additions to reflect the Company's historical spending pattern for planned capital expenditures provides a more realistic plant-in-service balance to use in the calculation of rates that will be in effect until the Final Commission Order is entered in the Company's next rate proceeding. Mr. Kahle also proposed related adjustments to depreciation expense, accumulated depreciation, and accumulated deferred federal and state income taxes. (Staff Ex. 1.0, pp. 8-10.)

Company witness Kerckhove testified that, for the purposes of this case, the Company accepted Staff's percentage adjustments to plant-in-service. (IAWC Ex. 6.00R1, pp. 3-4.) Mr. Kerckhove offered modifications to Staff's adjustments. (*Id*., pp. 4-5.) Staff concurred with Mr. Kerckhove's modifications. (Staff Ex. 8.0R, pp. 5-6.)

D. Tank Painting

Because the Company's test year ending December 31, 2010 is a future test year, its additions to deferred tank painting in the test year and in 2009 are simply forecasted amounts that are subject to change as the actual data becomes known. Staff witness Kahle's proposed adjustments to reduce the Company's additions to deferred tank painting for the years ending December 31, 2009 and December 31, 2010 were based on the Company's history of actual tank painting additions compared to planned tank painting additions for the years 2006, 2007 and 2008. Adjusting the forecasted additions to reflect the Company's historical spending pattern for planned tank painting additions provides a more realistic deferred tank painting balance to use in the calculation of rates that will be in effect until the Final Commission Order is entered in the Company's next rate proceeding. Mr. Kahle also proposed related adjustments to amortization expense and accumulated deferred federal and state income taxes. (Staff Ex. 1.0, pp. 12-15.)

Company witness Kerckhove testified that the Company accepted Staff's adjustments to tank painting with certain modifications. (IAWC Ex. 6.00R1, pp. 6-7.) Staff concurred with Mr. Kerckhove's modifications. (Staff Ex. 8.0R, pp. 5-6.)

E. Original Cost Determination

The requirements for the preservation of specific Company records as set forth in 83 Ill. Adm. Code 615, The Preservation of Records of Water Utilities, Appendix A, are associated with an original cost determination. Accordingly, Staff witness Kahle recommended that the Commission find that the Company's December 31, 2008 plant

balance reflected on Company Schedule B-5 Second Revised, page 3 of 24, was approved for purposes of an original cost determination, subject to any adjustments ordered by the Commission in this proceeding. (Staff Ex. 1.0, pp. 7-8.)

Company witness Kerckhove indicated that the Company did not oppose Mr. Kahle's recommendation. (IAWC Ex. 6.00R1, p. 3.)

F. Recommended Rate Base

Staff's recommended rate bases for Illinois-American's respective rate areas/Districts are reflected in Appendix A attached hereto.

III. OPERATING REVENUES AND EXPENSES

A. Introduction

Schedules showing the operating revenues, expenses and income at present and recommended rates for the future test year were presented by Company and Staff witnesses. Staff proposed a number of adjustments to IAWC's operating statements.

B. Tank-Painting Charges and Amortization Expense

Staff witness Kahle proposed that the Company's tank painting expense (the annual amortization of deferred tank painting charges) be reduced to reflect the adjusted cost of deferred tank painting, which is discussed above at II. Rate Base, D. Tank Painting. The Company accepted Staff's proposal with modifications that were accepted by Staff witness Kahle.

C. Adjustments to Depreciation Expense

Staff witness Kahle proposed that the Company's depreciation expense be reduced to reflect the adjusted cost of utility plant-in-service, which is discussed above at II. Rate Base, C. Plant-in-Service Adjustment. The Company accepted Staff's proposal with modifications that were accepted by Staff witness Kahle.

D. Advertising Expense

Staff witness Kahle proposed an adjustment to remove advertising expenses that were not recoverable under Section 9-225 of the Act, 220 ILCS 5/9-225, because they were of a promotional, goodwill or institutional nature or were not tied to specifically identifiable advertising. (Staff Ex. 1.0, pp. 15- 16.)

The Company did not contest this adjustment. (IAWC Ex. 7.00R1, p. 4.)

E. Lobbying Expense

Mr. Kahle proposed an adjustment for a portion of dues expense associated with lobbying activities, since such expenses are prohibited from rate recovery in Section 9-224 of the Act, 220 ILCS 5/9-224. (Staff Ex. 1.0, pp. 16-17.)

The Company did not contest this adjustment but offered a more current invoice amount to be used for the adjustment. (IAWC Ex. 7.00R1, pp. 4-5.) Staff accepted the Company's invoice amount. (Staff Ex. 8.0R, pp. 7-8.)

F. Prior Rate Case Expense

Staff witness Wilcox proposed an adjustment to correct the amount of prior rate case expense to be amortized in the test year. This correction was necessary because the Company included in the unamortized balance of rate case expense from its last rate case (Docket No. 07-0507) more rate case expense than the Commission authorized in that rate case. While the Company is entitled to include in the current rate case the unamortized rate case expense from its prior rate case, the Company should not include more than the Commission approved in Docket No. 07-0507. (Staff Exhibit 2.0, p. 3.)

Company witness Bernsen disagreed. He testified that IAWC was ordered by the Commission in Docket No. 05-0681 to conduct a Municipal Rate Study, which the Company did in conjunction with its next rate case (Docket No. 07-0507). Mr. Bernsen argued that because the Municipal Rate Study was of a "unique nature," the Company should be allowed to recover all of the costs associated with the study including those in excess of the amount approved by the Commission. (IAWC Ex. 7.00R1 (Rev.), pp. 1-2.)

Staff believes there is no merit whatsoever to the Company's argument. The Company should not be allowed to amortize any component of rate case expense in excess of that approved by the Commission. Mr. Bernsen acknowledged in his response to Staff Data Request LHW 11.01 that:

> The Docket 05-0681 Order did not state or imply a determination as to whether the Company would be permitted to recover as Rate Case Expense costs related to preparation of evidence on municipal rate comparisons that were greater than those ultimately approved by the Commission.

(Staff Ex. 9.0, p. 2.)

Staff Data Request LHW 11.02 invited Mr. Bernsen to "cite precedent from any Commission rate proceeding wherein a utility was permitted to recover as a Rate Case Expense costs greater than those approved by the Commission." He responded (in part) as follows:

> In Docket 95-0076, the Commission approved recovery of the unamortized balance of the (higher than approved) actual cost of a depreciation study prepared for the prior rate case (Docket 92-0116). In Docket 92-0116, the Commission approved recovery of the amount of unamortized prior rate case expense incurred in Docket 90-0100. In Docket 02-0690, the Commission approved recovery of the unamortized balance of (lower than approved) actual prior rate case expense from Docket 00-0340.

(*Id*., p. 3.)

The circumstances of Docket Nos. 92-0116 and 02-0690 do not appear to be relevant. In the former, the Commission purportedly approved unamortized prior rate case expense; that is not the point of contention. In the latter, the Commission approved recovery of the unamortized balance of (lower than approved) actual prior rate case expense; Staff's position is that IAWC may not amortize expenses higher than those approved by the Commission. The circumstances of Docket No. 95-0076 would appear to be relevant; however, there is no reference to a depreciation study contained in the Commission's Final Order. (*Id*.)

In summary, in Docket No. 07-0507, the Commission approved IAWC's recovery of $1,482,020 for rate case expense for that case. Included in this $1,482,020 total was $37,000 for a municipal rate study. The Company now proposes to retroactively adjust the amount the Commission approved for the municipal rate study and increase it to $224,047. Staff's adjustment limits the recovery of the unamortized rate case expense from Docket No. 07-0507 to the amount the Commission approved in that case. The

Commission should accept Staff's adjustment. (*Id*., pp. 3-4.)

G. Current Rate Case Expense

Staff witness Wilcox attached to his direct testimony the Company's responses to Staff Data Requests LHW 5.01 and LHW 7.01. The purpose was to provide a basis for the Commission to assess whether the Company's proposed expenditures to compensate attorneys or technical experts to prepare and litigate the instant proceeding were just and reasonable pursuant to Section 9-229 of the Act, 220 ILCS 5/9-229. Mr. Wilcox recommended that the Commission find that the proposed amounts to be expended by the Company for rate case expense in this proceeding, as adjusted by Staff, were just and reasonable. (Staff Exhibit 2.0, pp. 2-4.)

H. Insurance Expense

In direct testimony, Staff witness Wilcox proposed an adjustment to reduce Insurance Expense. Mr. Wilcox's adjustment was to disallow the insurance amount referenced as "Retrospective Adjustment (Commercial General Liab, Auto Liab, and Workers Comp)." The "retrospective adjustment" to Insurance Expense was not included in the Company's original filing; it initially appeared in Schedule C-17 First Revised of the Company's response to Staff Data Request LHW 8.01. Mr. Wilcox presumed the retrospective adjustment was based on costs incurred during previous accounting periods, and, as such, was not appropriate for inclusion as a test year expense. (Staff Exhibit 2.0, p. 4.)

In rebuttal testimony, Company witness Bernsen testified that "Retrospective Adjustment" as used on Schedule C-17 First Revised was a misnomer, indicating that the correct term for the line item was "Retrospective Accrual." Mr. Bernsen testified that the Retrospective Accrual is a prospective review of expected future insurance claims

cost based upon current Insurance Other Than Group Insurance ("IOTG") premiums for General Liability, Auto Liability, and Workers Compensation, utilizing the most recent available loss information and claims experience. This review results in an adjustment to annual IOTG expense that represents insurance costs for current claims in excess of premium costs. For the test year, IAWC projected that a Retrospective Accrual adjustment, representing an additional expense above projected IOTG premiums, would be required. (IAWC Ex. 7.00R1 (Rev.), pp. 2-3.)

Mr. Wilcox, in rebuttal testimony, accepted Mr. Bernsen's explanation and withdrew the adjustment. (Staff Exhibit 9.0, pp. 4-5.)

I. Recommended Operating Income and Revenue Requirement

Staff's recommended operating income and revenue requirement for Illinois-American's respective rate areas/Districts are reflected in Appendix A attached hereto.

IV. COST OF CAPITAL

Staff and IAWC are not in disagreement regarding the cost to be applied to long-term debt and short-term debt in this proceeding.

Staff witness Kight-Garlisch[3] recommended an overall cost of capital for IAWC of 8.25%. (Staff Ex. 10.0, p. 2.) Under the traditional regulatory model, ratepayer and shareholder interests are balanced when the Commission authorizes a rate of return on rate base equal to the public utility's overall cost of capital, as long as that overall cost of capital is not unnecessarily expensive. (Staff Ex. 3.0, p. 2.) If the authorized rate of return exceeds the cost of capital, then ratepayers bear the burden of excessive prices.

[3] At the December 10, 2009 evidentiary hearing, Staff witness Phil Hardas sponsored the direct and rebuttal testimonies of Staff witness Kight-Garlisch.

Conversely, if the authorized rate of return is lower than the overall cost of capital, the financial strength of the utility could deteriorate, making it difficult for the utility to raise capital at a reasonable cost. (*Id*.) Ultimately, the utility's inability to raise sufficient capital would impair service quality. (*Id.*) Therefore, ratepayer interests are best served when the authorized rate of return on rate base equals the utility's overall cost of capital. (*Id*., pp. 2-3.)

A. Capital Structure

Staff witness Kight-Garlisch recommended a capital structure that contains 0.15% short-term debt, 51.22% long-term debt and 48.63% common equity. (Staff Ex. 10.0, p. 2.) Capital structure affects the value of a firm and, therefore, its cost of capital, to the extent it affects the expected level of cash flows that accrue to parties other than debt and stock holders. (Staff Ex. 3.0, p. 4.) Employing debt as a source of capital reduces a company's income taxes,[4] thereby reducing the cost of capital; however, as reliance on debt as a source of capital increases, so does the probability of default. (*Id*.) As the probability of default rises, expected payments to attorneys, trustees, and other outside parties increase. (*Id*.) Further, the expected cash flows decline as the company foregoes investment that would have been available to it had its financial condition been stronger, including the expected value of the income tax shield from debt financing. Beyond a certain point, a growing dependence on debt as a source of funds increases the overall cost of capital. (*Id*.) Therefore, the Commission should not determine the overall rate of return from a utility's actual capital structure if the Commission concludes

[4] The tax advantage debt has over equity at the corporate level is partially offset at the individual investor level. Debt investors receive returns largely in the form of current income (i.e., interest). In contrast, equity investors receive returns in the form of both current income (i.e., dividends) and capital appreciation (i.e., capital gains). Taxes on common dividends and capital gains are lower than taxes on interest income because common dividends and capital gains tax rates are lower, and taxes on capital gains are deferred until realized.

that capital structure adversely affects the overall cost of capital. (*Id*.)

An optimal capital structure would minimize the cost of capital and maintain a utility's financial integrity. (*Id*.) Unfortunately, determining whether a capital structure is optimal remains problematic because: (1) the cost of capital is a continuous function of the capital structure, rendering its precise measurement along each segment of the range of possible capital structures problematic; (2) the optimal capital structure is a function of operating risk, which is dynamic; and (3) the relative costs of the different types of capital vary with dynamic market conditions. (*Id*., pp. 4-5.) Consequently, one should determine whether the capital structure is consistent with the financial strength necessary to access the capital markets under most economic conditions; and, if so, whether the cost of that financial strength is reasonable. (*Id*., p. 5.)

B. Cost of Debt

1. Cost of Short-Term Debt

Staff witness Kight-Garlisch disagreed with IAWC's use of forecasted interest rates to determine the cost of short-tem debt as a matter of sound financial principle. (Staff Ex. 10.0, pp. 2-3.) Nonetheless, in this case, because using forecasted interest rates do not change the overall cost of capital for IAWC, since the amount of short-term debt in the capital structure is so small, Staff accepted IAWC's proposed cost of short-term debt. (*Id*.) Ms. Kight-Garlisch explained that using Staff's proposed 1.0% interest rate or either of the Company's proposed 1.97% interest rate or its alternative of 0.4634% is so small that it does not change the overall cost of capital. (*Id*.) Accordingly, in the interest of compromise to preserve the parties' scarce resources, and particularly because there is a *de minimus* impact, Staff accepted IAWC's proposed

cost of short term debt. (*Id*.)

2. Cost of Long-Term Debt

Staff witness Kight-Garlisch testified that IAWC's embedded cost of long-term debt for average 2010 was 6.24%. (Staff Ex. 10.0, p. 3; Sched. 10.2.) She adjusted the November proposed debt instrument to reflect the current interest rate on BBB/Baa taxable debt of 6.20%.[5] (Staff Ex. 10.0, p. 3.) Ms. Kight-Garlisch testified that the best predictor of future rates was the current interest rate. (*Id*.) She noted that the Company was expected to issue the proposed debt instrument in late November 2009. The November issue would be taxable corporate bonds. Thus, Ms. Kight-Garlisch recommended that if the Company issued the proposed debt instruments before the evidentiary hearings in this case, IAWC should reflect the actual interest rate and expenses of the issues in its average 2010 embedded cost of debt. (*Id*.)

At the evidentiary hearing, IAWC witness Rungren provided an update to an ongoing data request regarding IAWC's proposed debt instrument. He testified that IAWC issued $14 million dollars of a 30-year fixed debt at a rate of 6%, which closed on December 4, 2009. (Tr., December 8, 2009, pp. 297-98; AG Cross Ex. 14.) In light of this change to IAWC's financing plan, Mr. Rungren accepted Staff's proposed rate of 6.2% for the entire $39 million debt financing. (*Id*., pp. 324-25.)

C. Cost of Common Equity

1. Staff's Analysis

Staff witness Michael McNally estimated IAWC's investor-required rate of return on common equity to be 10.38%. (Staff Ex. 4.0, p. 29.) Mr. McNally measured the

[5] Value Line, Selection & Opinions, November 6, 2009, p. 3229.

investor-required rate of return on common equity using discounted cash flow ("DCF") and Capital Asset Pricing Model ("CAPM") analyses. Mr. McNally applied those models to a sample of water utility companies ("Water Group") and a sample of comparable public utility companies ("Utility Group"). (*Id*., p. 2.)

To select the companies in the Water Group, Mr. McNally started with a list of publicly traded, domestic water utilities included in Standard & Poor's ("S&P") *Utility Compustat*. He then eliminated any company that: (1) reduced its dividend or does not consistently pay a dividend; (2) did not have a Zacks Investment Research ("Zacks") 3-5 year growth rate; or (3) did not have five years of pricing data available from which beta could be calculated. The eight remaining companies, American States Water Company, Aqua America, Inc., Artesian Resources, California Water Service Group, Connecticut Water Service, Middlesex Water Company, SJW Corp., and York Water Company, compose the Water Group. (*Id*., pp. 2-3.)

The companies in the Utility Group were chosen on the basis of a principal components analysis using twelve financial and operating ratios: (1) common equity to capitalization; (2) funds from operations to capitalization; (3) funds from operations to long-term debt; (4) fixed assets to revenues; (5) free cash flow to capitalization; (6) funds from operations interest coverage; (7) net cash flow to capital expenditures; (8) net plant to capital expenditures; (9) operating profit margin; (10) operating revenue stability; (11) earnings before interest and taxes stability; and (12) earnings stability. For the first nine ratios, data from the period 2006-2008 were averaged to normalize the ratios. The last three ratios were measured over the period 2004-2008 with the coefficient of determination of a least-squares regression of the natural logarithm of the

respective quarterly data against time. After calculating the scores for each principal component, he rank-ordered the companies in terms of least relative distance from IAWC's target scores. He then eliminated: (1) water utilities to avoid doubling the weight given them, as they were already considered in his Water Group; (2) any non-investment grade utilities; (3) any company that reduced its dividend or does not consistently pay a dividend; and (4) any company that lacked a Zacks 3-5 year growth rate. The Utility Group consisted of the five utilities the least distance from, and therefore, the most comparable to, IAWC: Idacorp, Inc., American Electric Power Company, Progress Energy, Inc., Pinnacle West Capital Corp., and FirstEnergy Corp. (*Id.*, p. 3.)

For reasons summarized below, Mr. McNally's 10.38% cost of equity recommendation for IAWC is based on the results of his Utility Group. (*Id*., p. 29.)

a. DCF Analysis

DCF analysis assumes that the market value of common stock equals the present value of the expected stream of future dividend payments. Since a DCF model incorporates time-sensitive valuation factors, it must correctly reflect the timing of the dividend payments that stock prices embody. The companies in Mr. McNally's samples pay dividends quarterly. Therefore, Mr. McNally applied a quarterly DCF model. (Staff Ex. 4.0, pp. 5-6.)

Mr. McNally employed a multi-stage, non-constant DCF model ("NCDCF") in his DCF analysis. Mr. McNally explained that, in choosing the appropriate DCF model, the measurement error of the NCDCF must be weighed against that of the constant growth DCF. While an NCDCF model is a more elaborate model with additional unobservable

growth rate variables that are likely subject to greater measurement error than the analyst growth rate estimates Staff uses in constant growth DCF analyses, the cost of common equity estimate derived from a constant growth DCF model is appropriate to use only if the near-term growth rate forecast for each company in the sample is expected to equal its average long-term dividend growth. In this case, the expected near-term growth levels for the Water Group (8.08%) and the Utility Group (5.18%) were, respectively, approximately 80% and 15% greater than the expected long-term growth of the overall economy, as measured by GDP growth (approximately 4.5%). Mr. McNally explained that no company could sustain a growth rate greater than that of the overall economy, or it would eventually grow to the size of the economy of which it is only a part. Moreover, since utilities in particular are generally below-average growth companies, the sustainability of an above average growth rate is particularly dubious. Thus, given the substantial difference between the near-term growth rates for the samples and the overall growth of the economy, the continuous sustainability of the near-term growth rates for those samples is highly unlikely. Therefore, Mr. McNally concluded that the measurement error associated with a constant-growth DCF analysis exceeds that associated with an NCDCF model, making the latter model preferable. (*Id*., p. 7.)

Mr. McNally's NCDCF model incorporated three stages of dividend growth. The first, a near-term growth stage, is assumed to last five years. For this stage, Mr. McNally used Zacks growth rate estimates as of September 2, 2009. The second stage is a transitional growth period that spans from the beginning of the sixth year through the end of the tenth year. The growth rate employed in the transitional growth period

equals the average of the Zacks growth rate and the "steady-state" stage growth rate. Finally, the third, or "steady-state," growth stage commences at the end of the tenth year and is assumed to last into perpetuity. For this stage, Mr. McNally utilized the implied 20-year forward U.S. Treasury rate in ten years, which reflects current expectations of the long-term overall economic growth during the steady-state growth stage of his NCDCF model.[6] An implied 20-year forward U.S. Treasury rate in ten years of 4.54% was derived from the 3.29% 10-year and the 4.09% 30-year U.S. Treasury rates as of September 2, 2009 using the following formula:

$$ {}_{20}f_{10} = [(1+{}_{30}r_0)^{30} / (1+{}_{10}r_0)^{10}]^{1/20} - 1 $$

Where ${}_{20}f_{10}$ = the implied 20-year forward U.S. Treasury rate in ten years;
${}_{30}r_0$ = the current 30-year U.S. Treasury rate; and
${}_{10}r_0$ = the current 10-year U.S. Treasury rate.

(*Id*., pp. 8-9.)

An expected stream of dividends was then estimated by applying the growth rate estimates for those three stages to the September 2, 2009 dividend. The discount rate that equates the present value of this expected stream of cash flows to the company's September 2, 2009 stock price equals the market-required return on common equity. Based on this growth, stock price, and dividend data, Mr. McNally's DCF estimates of the cost of common equity were 9.30% for the Water Group and 10.72% for the Utility Group. (*Id*., p. 11.)

[6] Excepting a small premium for interest rate risk, the implied 20-year forward U.S. Treasury rate in ten years represents the risk-free rate of return during the 20-year period beginning in 10 years and ending 30 years from today, as implied by current 10- and 30-year U.S. Treasury rates. The overall economic growth rate and the risk-free rate of return should be similar since both are a function of production opportunities and consumption preferences. (*Id*., pp. 13-17.)

b. Risk Premium Analysis

According to financial theory, the required rate of return for a given security equals the risk-free rate of return plus a risk premium associated with that security. The risk premium methodology is consistent with the theory that investors are risk-averse and that, in equilibrium, two securities with equal quantities of risk have equal required rates of return. Mr. McNally used a one-factor risk premium model, the Capital Asset Pricing Model, to estimate the cost of common equity. In the CAPM, the risk factor is market risk, which cannot be eliminated through portfolio diversification. (Staff Ex. 4.0, pp. 12-13.)

The CAPM requires the estimation of three parameters: beta, the risk-free rate, and the required rate of return on the market. (*Id*., p. 13.) For the beta parameter, Mr. McNally combined adjusted betas from Value Line, Zacks, and a regression analysis. The average Value Line, Zacks, and regression beta estimates were 0.76, 0.63, and 0.57, respectively. The Value Line regression employs 259 weekly observations of stock return data regressed against the New York Stock Exchange ("NYSE") Composite Index. Both the regression beta and Zacks betas employ sixty monthly observations; however, while Zacks betas regress stock returns against the S&P 500 Index, the regression beta regresses stock returns against the NYSE Index. Since the Zacks beta estimate and the regression beta estimate are calculated using monthly data rather than weekly data (as Value Line uses), Mr. McNally averaged the monthly data beta results to avoid over-weighting that approach. He then averaged that result with the Value Line beta, which produced a beta for the Gas Group of 0.68. (*Id*., pp. 18-23.) For the risk-free rate parameter, Mr. McNally considered the 0.09% yield on four-week U.S.

Treasury bills and the 4.13% yield on thirty-year U.S. Treasury bonds. Both estimates were measured as of September 2, 2009. Forecasts of long-term inflation and the real risk-free rate imply that the long-term risk-free rate is between 4.3% and 5.2%. Thus, Mr. McNally concluded that the U.S. Treasury bond yield is currently the superior proxy for the long-term risk-free rate. (*Id*., pp. 13-17.) Finally, for the expected rate of return on the market parameter, Mr. McNally conducted a DCF analysis on the firms composing the S&P 500 Index. That analysis estimated that the expected rate of return on the market equals 12.70%. (*Id*., p. 18.) Inputting those three parameters into the CAPM, Mr. McNally calculated cost of common equity estimates of 9.96% for the Water Group and 10.04% for the Utility Group. (*Id*., p. 24.)

c. Recommendation

Based on his DCF and risk premium models, Mr. McNally estimated that the cost of common equity for the Water Group is 9.63% and the cost of common equity for the Utility Group is 10.38%. Mr. McNally then compared the risk of the two samples to IAWC to determine the relative weighting that should be applied to each. (Staff Ex. 4.0, p. 25.)

Mr. McNally used two approaches to determine the relative weighting that should be applied to each of his samples. The first approach involved a review of S&P credit ratings. The average S&P credit rating for the companies in his Water Group is A, while the average S&P credit rating for the companies in his Utility Group is BBB, which indicates that the Water Group is less risky than the Utility Group. Although S&P does not present a credit rating specifically for IAWC, IAWC's affiliates for which S&P does present credit ratings, including its parent and regulated sister subsidiaries, are all rated

BBB+. Thus, S&P credit ratings for IAWC's parent and affiliate companies suggest that IAWC may be riskier than the Water Group, but slightly less risky than the Utility Group. (*Id*., p. 26.)

The second approach Mr. McNally used to determine the relative risk of his samples to IAWC was to perform a principal components analysis, using the same approach used to select his Utility Group. He compared four principal components factor scores for IAWC, his Water Group, and his Utility Group to assess their relative risk. Each utility's principal components factor score represents the number of standard deviations (σ) that utility falls from the industry average in terms of that specific risk factor. The standard deviation is a statistic that explains how tightly the observations are clustered around the mean in a set of data. Under a normal distribution, approximately 68% of all observations will fall within one standard deviation of the average; approximately 95% will fall within two standard deviations. (*Id*.)

Factor 1 measures financial strength, with a higher score indicating less risk. IAWC's score on factor 1 is -0.846σ, while the Water Group's factor 1 score is -0.496σ and the Utility Group's factor 1 score is -0.365σ. Thus, IAWC is slightly riskier than both the Water Group and Utility Group in terms of financial risk. Factor 2 measures construction risk, with a higher score again indicating less risk. IAWC's score on factor 2 is -0.590σ, which is almost identical to the Water Group's -0.570σ, but slightly lower than the Utility Group's -0.157σ. This indicates that IAWC's level of construction risk is the same as that of the Water Group, but slightly higher than that of the Utility Group. Factor 3 measures revenue and earnings stability, indicators of sales and cost variability. A higher factor 3 score indicates greater revenue and earnings stability and,

thus, lower risk. IAWC's factor 3 score of -0.041σ is lower than the Water Group's score of 0.913σ, but very similar to the Utility Group's factor score of 0.087σ. This indicates that IAWC has less stable revenues and earnings, and, consequently, more risk, than the Water Group, but very similar sales risk to the Utility Group. Factor 4 measures capital intensity. Capital intensity can insulate a company from competition and, thus, reduce risk, but can also indicate higher operating leverage (i.e., fixed costs), which can increase risk through lower earnings stability. IAWC's factor 4 score of 0.868σ is slightly lower than the Water Group's score of 1.353σ, but slightly higher than the Utility Group's factor score of 0.612σ. Since IAWC's earnings stability is lower than that of the Water Group, Mr. McNally concluded that IAWC's capital intensity increases its operating risk relative to the Water Group. In contrast, given the minor difference between the Utility Group's and IAWC's factor 4 scores and the imprecise nature of interpreting the risk associated with that factor, it is not clear what effect IAWC's slightly higher capital intensity has on its risk relative to that of the Utility Group.[7] However, it is clear that the effect is small. Overall, Mr. McNally's principal components analysis indicates that IAWC has slightly higher risk than the Water Group and overall risk that is equal to or slightly greater than of the Utility Group. (*Id*., pp. 27-29.)

Both Mr. McNally's review of credit ratings and his principal components analysis suggest that the Water Group is less risky than either IAWC or the Utility Group. However, the risk of IAWC relative to the Utility Group is less obvious. While the S&P credit ratings for IAWC's parent and affiliate companies suggest that IAWC may be slightly less risky than the Utility Group, the principal components scores suggest that it

[7] The S&P reports for AWW, Pennsylvania-American, and New Jersey-American specifically note their "excellent competitive position with high barriers to entry." That language suggests that IAWC's higher capital intensity (factor 4 score) is an attribute that reduces its operating risk.

may be slightly more risky. Given the split results of those risk measures, the minor difference in risk each suggests, and the inexact nature of risk assessment, it is reasonable to conclude that the Utility Group's risk level is representative of that of IAWC. Thus, Mr. McNally estimated the cost of common equity for IAWC based on the results of the Utility Group, recommending a cost of common equity of 10.38%. (*Id*., p. 29.)

d. Response to Company's Criticism

Company witness Ahern argued that certain changes were necessary to "correct" Mr. McNally's cost of common equity analysis. As explained below, none of those changes are warranted.

i. GDP Growth Rate and Risk-free Rate

Ms. Ahern maintains that, rather than the using then-current 30-year U.S. Treasury bond ("T-bond") yield to estimate the risk-free rate in his CAPM analysis (4.13%), Mr. McNally should have utilized the average Blue Chip forecasts of T-bond yields for the next six quarters (4.67%). (IAWC Ex. 8.00R1 (Rev.), p. 3; IAWC Ex. 8.00SR (Rev.), p. 4.) Likewise, Ms. Ahern also avers that, rather than using the then-current 10- and 30-year T-bond yields to estimate the growth for the third stage of his NCDCF analysis (4.54%), Mr. McNally should have utilized EIA forecasts of GDP (4.92%) or Blue Chip forecasts of T-bond yields (5.70%). (IAWC Ex. 8.00R1 (Rev.), pp. 3-4; IAWC Ex. 8.00SR (Rev.), pp. 3-4.) Ms. Ahern's argument for the substitution of forecasts for the then-current T-bond yields is untenable. There is no valid justification for disregarding the investor expectations imbedded in objective, observable current market data in favor of a proxy for those expectations imbedded in speculative

projections.

Ms. Ahern's contention, based on long-term forecasts, that the risk free-rate and third-stage growth estimates Mr. McNally used are too low is entirely speculative. No one can forecast with any certainty the timing, direction, or magnitude of long-term interest rate changes. Although, a discrepancy exists between the expectations imbedded in the long-term forecasts Ms. Ahern cited and those embedded in the T-bond yield Mr. McNally cited, it is important to note that T-bond yields reflect market forces, while forecasts do not. That is, investors dictate the T-bond yield by actually buying and selling them, thereby revealing their expectations, whereas forecasts merely reflect the opinions of a limited number of analysts, made with no direct financial interest. Thus, the forecasts Ms. Ahern advocates are merely proxies for investor expectations. Proxies are a source of measurement error in cost of common equity estimation. Therefore, proxies should be used only when the market variable in question is not observable. Since market expectations for T-bond yields are observable, proxies for those expectations, such as a Blue Chip forecast, should not be used. Moreover, the current U.S. Treasury yields Mr. McNally used to measure GDP growth and the risk-free rate reflect all publicly-available information, as Ms. Ahern has acknowledged. Consequently, any influence EIA and Blue Chip forecasts might have on investor expectations is already reflected in the current U.S. Treasury yields. The true risk-free rate is reflected in the return investors are willing to accept in the market. As of September 2, 2009, investors were willing to accept a 4.13% return on T-bonds. (Staff Ex. 11.0, pp. 2-3.)

Ms. Ahern claims that Mr. McNally's use of the most-recent spot rate at the time

of his analysis is inconsistent with the prospective nature of the cost of capital. However, her argument is absurd, since a U.S. Treasury yield is the cost of capital for that U.S. Treasury security. Ms. Ahern avers that her claim was intended to highlight the fact that the then-current T-bond yields are now "historical in nature." (IAWC Ex. 8.00SR (Rev.), p. 2.) However, her observation is unconstructive, since any analysis that requires the use of market data will immediately become "historical in nature."[8] Indeed, by her logic, the costs of common equity she and Mr. McNally estimated are both inconsistent with the prospective nature of the cost of capital because the dates for those analyses are now past.[9] In fact, the data used in Ms. Ahern's analysis are more than six months older than those in Mr. McNally's analysis, making Ms. Ahern's argument even more curious.

Moreover, the Blue Chip forecasts of the T-bond yields for the next six quarters that Ms. Ahern advocates have an additional defect as estimates of the GDP growth and the risk-free rate. A current cost of equity must reflect investors' current expectations of the future. However, Blue Chip forecasts do not represent current investor expectations, but reflect estimates of investor expectations at some point in the future. For example, while a current 30-year T-bond yield reflects investors' current expectations for the next 30 years, the Blue Chip forecast of the 30-year T-bond yield six quarters from now is a proxy for the expectations for the 30 years beginning six quarters from now. In contrast, the other data inputs used in Ms. Ahern's and Mr.

[8] The only alternative would be to disregard all observable market data and perform an analysis using only forecasted inputs (including forecasted stock prices). However, to do so would be folly and the resulting "estimate" would be purely conjectural. Significantly, none of the witnesses in this proceeding propose this alternative approach.

[9] Ms. Ahern's definition of "prospective" also renders the Blue Chip forecasts "historical in nature" since they do not reflect information that becomes available after the date the forecast is produced.

McNally's analyses, including stock prices, dividends, beta, and market return, reflected current expectations as of the date of those analyses. Thus, if those forecasts were used to estimate the GDP growth rate and the risk-free rate inputs, those inputs would not be consistent with the other data inputs used in those analyses. Consequently, the result would not represent a true cost of capital at any single time period, but an uninformative amalgamation of mismatched data from different time periods. (Staff Ex. 11.0, p. 3.)

Finally, Ms. Ahern's "corrected" 5.70% implied 20-year forward U.S. Treasury yield is incorrectly calculated. (IAWC Ex. 8.00SR (Rev.), pp. 3-4.) To begin with, her calculation implies the forecasted yield on 10-year T-bonds five quarters hence equals the forecasted yield on an 8.75 year T-bonds five quarters hence (i.e., she assumed the 10-year yield applicable for the years 1.25 through 11.25 equals the yield for years 1.25 through 10). Similarly, her calculation implies the forecasted yield on 30-year T-bonds five quarters hence equals the forecasted yield on an 28.75 year T-bonds five quarters hence (i.e., she assumed the 30-year yield applicable for the years 1.25 through 31.25 equals the yield for years 1.25 through 30). That is, her calculation assumes a flat yield curve over those periods. However, that cannot be determined from the data presented. More importantly, however, her calculation overstates the implied 20-year forward U.S. Treasury yield because she "annualized" a 20-year total yield by dividing it across only 18.75 periods. Obviously, to obtain the true annual yield over a 20 year period, one must divide the total yield into 20 equal periods, not 18.75; to divide 20 years' yield by 18.75 periods produces 1.067-year yield rather than an annualized

yield.[10] Thus, her 5.70% yield does not equal a 1-year yield, but a 1.067-year yield.

ii. Business Risk Adjustment

Ms. Ahern suggests that Mr. McNally should have added a 0.15% business risk adjustment to his estimate of the cost of common equity. (IAWC Ex. 8.00R1 (Rev.), pp. 5-6; IAWC Ex. 8.00SR (Rev.), p. 10.) As explained in more detail below (*see* section IV. Cost of Capital, C. Cost of Common Equity, 2. Company's Analysis, b. Business Risk Adjustment), her business risk premium is baseless and must be rejected. Ms. Ahern failed to establish that IAWC's business risk is any higher than that of the companies in Mr. McNally's samples. In fact, she did not even attempt to do so in any manner whatsoever. The Commission obviously cannot accept an adjustment to the cost of common equity for an alleged difference in business risk without a valid comparative analysis.

iii. Financial Risk Adjustment

Ms. Ahern also suggests that Mr. McNally should have added a 0.21% financial risk adjustment to his estimate of the cost of common equity. (IAWC Ex. 8.00R1 (Rev.), p. 7; IAWC Ex. 8.00SR (Rev.), pp. 5-6.) Ms. Ahern's "financial risk" adjustment is based on her conclusion that there is a difference of "at least two notches or more" between the average credit rating of Mr. McNally's Utility Group and her presumed credit rating of IAWC. However, her claim that the average credit rating for the Utility Group is BBB+ and that, in her opinion, IAWC would be rated BBB-/BB+ if it were rated by S&P is based on flawed analysis. Moreover, Mr. McNally's analysis of the risk of the IAWC relative to that of his Utility Sample, from which his cost of common equity estimate was

[10] Specifically, her formula incorrectly calculates the 18.75^{th} root rather than the 20^{th} root of the ratio of the 28.75-year return to the 8.75-year return.

derived, indicated that no such adjustment was necessary. (Staff Ex. 4.0, pp. 26-29.)

First, Ms. Ahern overstates the credit rating for Mr. McNally's Utility Group. The average S&P corporate (i.e., issuer) credit rating for the companies in his Utility Group is BBB. However, Ms. Ahern based her "financial risk" adjustment on a BBB+ bond (i.e., issue) rating. An issuer credit rating represents the general risk and overall financial condition of a firm, as a whole. In contrast, a bond rating takes into consideration factors specific to a given issue or type of issue, such as guarantees or securitizations enhancing the credit of that particular obligation. Thus, since Ms. Ahern's adjustment is intended to reflect the risk of IAWC as a whole relative to that of the Utility Group, the BBB issuer credit rating would be the appropriate rating to use in this application. Moreover, since the S&P financial risk profile, the business risk profile, and the ratings matrix that form the basis for Ms. Ahern's hypothetical rating for IAWC, relate to issuer credit ratings, the BBB issuer credit rating should also be used for consistency in comparing the credit rating of the Utility Group to the hypothetical credit rating for IAWC. (Staff Ex. 11.0, pp. 5-6.)

Second, Ms. Ahern underestimated the assumed credit rating for IAWC. Ms. Ahern's opinion of what IAWC would be rated, if it were rated by S&P, is inconsistent with published S&P opinions and with the S&P rating methodology she cites, which causes her to overstate both IAWC's financial and business risk profiles. To begin with, although S&P has assigned an "Excellent" business risk profile to <u>every</u> <u>single</u> water utility that it rates, including six of the eight water utilities in Ms. Ahern's or Mr. McNally's water samples and the primary subsidiary of a seventh,[11] as well IAWC's parent and

[11] Standard & Poor's does not rate the other water utilities in Ms. Ahern's and Mr. McNally's water samples.

two of its regulated sister subsidiaries, Ms. Ahern simply assumed a "Strong" business risk profile for IAWC, an assumption she did not explain much less support. (*Id*., pp. 6-7.)

In addition, Ms. Ahern claims her review of S&P's updated benchmarks and IAWC's updated financial ratios supports her original estimate of IAWC's credit rating, if it were rated. (IAWC Ex. 8.00SR (Rev.), p. 5.) However, the S&P document Ms. Ahern cites as the basis for her adjustment explicitly states:

> [O]ur assessment of financial risk is not as simplistic as looking at a few ratios. It encompasses:
>
> - a view of accounting and disclosure practices;
> - a view of corporate governance, financial policies, and risk tolerance;
> - the degree of capital intensity, flexibility regarding capital expenditures and other cash needs, including acquisitions and shareholder distributions; and
> - various aspects of liquidity – including the risk of refinancing near-term securities.

(IAWC Schedule 8.05R2, p. 6.) Yet, her financial risk adjustment is based on a comparison of the *actual* credit ratings for Mr. McNally's sample, which are derived from S&P's assessments of financial risk profiles that reflect all the above, to *her estimate* of IAWC's credit rating, which she derived from her assessment of the financial risk profile that focuses on three financial ratios. Even if that approach were acceptable, inferring a financial risk profile on a review of those three ratios is still a matter of interpretation, since, as in this case, the three ratios rarely universally and unambiguously indicate a single category. Moreover, even if one could be certain of the financial risk profile of an unrated utility, to infer what *credit rating* S&P would ultimately assign that utility from the ratings matrix would still be speculative, since, as S&P repeatedly warns, "the financial

benchmarks are guidelines, neither gospel nor guarantee;" the rating matrix outcomes "are not meant to be precise indications or guarantees of future rating opinions;" and S&P does not "arrive by rote at a rating based on the matrix." (IAWC Schedule 8.02, p. 12; IAWC Schedule 8.05R2, p. 5.) Thus, her conclusion is based overwhelmingly on conjecture. Indeed, Ms. Ahern admits her estimate of IAWC's financial risk profile and credit rating represent nothing more than her "opinion." (IAWC Ex. 8.00R2, p. 21.) The validity of that opinion is dubious. Ms. Ahern did not, and cannot, demonstrate that the "Aggressive" to "Highly Leveraged" financial risk profile she assumes is what S&P would likely conclude, much less that S&P would assign IAWC an issuer and bond rating of BBB-/BB+. In fact, based on IAWC's updated financial ratios and S&P's updated methodology, two of the three ratios for IAWC fall squarely in the "Aggressive" benchmark range, with the third right at the boundary between the "Aggressive" and the "Highly Leveraged" categories, which suggests an "Aggressive" financial risk profile. All of the water companies S&P rates that have a financial risk profile of "Aggressive" to go with their "Excellent" business risk profile, were awarded S&P issuer ratings of BBB+ or A-. (IAWC Schedule 8.09R7, p. 3.) That is consistent with all of the analysis Mr. McNally has presented and supports his conclusion that no financial risk adjustment is warranted.

2. Company's Analysis

Company witness Ahern estimated the IAWC's costs of common equity using DCF and CAPM analyses, which she applied to both a sample of six water utilities ("Water Sample") and a sample of 26 natural gas or electric utilities ("Utility Sample"). Those analyses indicated a cost of common equity range of 11.93% to 12.04% for her

Water Sample and 10.85% to 11.96% for her Utility Sample. She gave 2/3 weight to the midpoint of the range for her Water Sample (11.99%) and 1/3 weight to the midpoint of the range for her Utility Sample (11.41%), which produced a cost of common equity estimate of 11.80%. She then added a 15 basis point business risk adjustment and a 30 basis point financial risk adjustment, giving her a final recommended a cost of common equity estimate of 12.25% for IAWC. (Staff Ex. 4.0, p. 30.) Unfortunately, Ms. Ahern's analysis has two primary flaws that led her to over-estimate IAWC's cost of common equity. The most significant flaws in Ms. Ahern's analysis of IAWC's cost of common equity are her use of a constant growth DCF model, which incorrectly assumes that the current 3-5 year growth rates for the companies in her samples are sustainable, and her addition of an unwarranted business risk adjustment to the results of her analyses. (*Id*., pp. 30-31.)

When her constant growth DCF results and her business risk adjustment are removed, her cost of common equity estimate becomes 10.69%. The difference between that estimate and Mr. McNally's 10.38% estimate is due primarily to the difference between the timing of their analyses. Ms. Ahern's analysis was performed on February 26, 2009, at which time the stock market was, as a result of the recent economic crisis, near its lowest point since 1997. In contrast, Mr. McNally's analysis was performed on September 2, 2009, after the stock market had recovered significantly.

a. Constant Growth DCF

The constant growth DCF model employs a single growth rate estimate, which is assumed to be sustainable ad infinitum. Thus, the cost of common equity estimate

derived from a constant growth DCF analysis is correct only if the near-term growth rate forecast for the subject company is expected to equal its average long-term dividend growth. However, the near-term growth rates for Ms. Ahern's samples, like those for Mr. McNally's samples, are not sustainable over the long term, based on current expectations of long-term economic growth. Ms. Ahern recommends a risk-free rate of 4.43% in her CAPM analysis, as well as 4.22% and 3.94% GDP growth estimates in her NCDCF models. Furthermore, the current expectation of growth for the economy, as measured by GDP, is only approximately 4.5%. In contrast, the average near-term growth rate for Ms. Ahern's Water Sample of 9.32% is more than double that estimate, and that of her Utility Sample is almost 60% greater, at 7.11%. Since utilities are generally below average growth companies, it is highly unlikely investors expect the companies in Ms. Ahern's samples to be able to sustain well above average growth. (Staff Ex. 4.0, pp. 31-32.)

Ms. Ahern was the Company's cost of common equity witness in IAWC's last rate case, Docket No. 07-0507. The growth rates presented in that proceeding were very similar to those presented in the instant docket; significantly, the Commission rejected Ms. Ahern's constant growth DCF analysis on the basis that the growth rates were unsustainable into perpetuity and, instead, relied exclusively on NCDCF analyses. Although Ms. Ahern acknowledged that decision and included an NCDCF analyses in her cost of common equity analysis in this proceeding, she also included the results of a constant growth DCF in her recommendation. Her inclusion of a constant growth DCF analysis is inconsistent with the rationale for employing an NCDCF analysis in the first place, namely, that the applicable 3-5 year analyst growth rates are unsustainable, as

explained above. The decision as to which model to employ must be consistent with the judgment regarding the sustainability of the growth rate to be used in the model. (*Id*., pp. 32-33.) The Commission noted as much in the Order from IAWC's last rate case:

> It appears to the Commission that the reasonableness of the growth rates, how the growth rates are developed, and what version of the DCF model should be used are interrelated in this case.

(Order, Docket No. 07-0507, July 30, 2008, p. 90.)

Indeed, in that proceeding Staff initially proffered a constant growth DCF model, but upon further consideration, replaced it with the results of a NCDCF analysis. Importantly, both Staff and the Commission discarded the results of the constant growth DCF analyses rather than combining them with the NCDCF results, as Ms. Ahern proposes. Likewise, the Commission should again remove the results of Ms. Ahern's constant growth DCF analysis from consideration in this proceeding. (Staff Ex. 4.0, p. 33.)

b. Business Risk Adjustment

Ms. Ahern's cost of common equity estimate for IAWC includes an upward adjustment to reflect the IAWC's allegedly higher business risk relative to her samples. The only basis Ms. Ahern presented for the quantification of her business risk adjustment is application of the findings of an Ibbotson study to the difference in size between the market values of her proxy groups and a hypothetical estimate of what IAWC's market value "would" allegedly be if it were traded. However, a size-based risk premium for a utility is contrary to financial theory and unsupported by empirical studies. (Staff Ex. 4.0, pp. 33-35.)

Even if, for the sake of argument, one accepts the Ibbotson study she relied on as proof of the general existence of a size premium, Ms. Ahern presented nothing to support her conclusion that a size premium is warranted for utility companies specifically. The Ibbotson study, which forms the basis of Ms. Ahern's business risk adjustment, is not restricted to utilities. Rather, it is based on the entire population of NYSE, AMEX, and NASDAQ-listed securities, which are heavily weighted with industrial stocks. (IAWC Ex. 8.00 (Rev.), Schedule 8.01, p. 6.) Thus, the entire quantitative basis of Ms. Ahern's business risk adjustment calculation is unfounded. Accordingly, the Commission has rejected such size-based risk adjustments in multiple cases. In fact, in IAWC's most recent rate case, Ms. Ahern presented the exact same type of "business risk adjustment" based on IAWC's small size relative to her two proxy groups. The Commission rejected her adjustment in that proceeding. (Staff Ex. 4.0, pp. 33-35.) Since the calculation of her adjustment has no applicable basis, it must once again be rejected.

Ms. Ahern responded by asserting that IAWC's allegedly higher business risk relative to her samples is due, not only to IAWC's smaller relative size, but also to regulatory risks specific to Illinois, the availability and quality of IAWC's water supply, and IAWC's concentration of sale for resale customers. She made that same argument in IAWC's last rate case; her business risk adjustment was appropriately rejected. In fact, her assertion does not bolster her argument for the adjustment she implemented. To the contrary, it further demonstrates that the only basis she provides for the calculation of that adjustment is inapplicable. She presented no quantification of the alleged effect of the risk factors cited, aside from the study of the so-called "size effect."

Indeed, she confirmed that her business risk adjustment "determinations are based on the size premia" from an Ibbotson study. Since that study did not consider any other alleged risk factors, it could not possibly reflect the other risk factors Ms. Ahern claims. Further, she concluded that IAWC's size alone would warrant an upward adjustment as large as 3.34%. If so, logic would dictate that an even larger adjustment would be warranted if it were to also reflect the increased risk due to the three other factors she cited, as she claims. Yet, instead she proposes an entirely arbitrarily adjustment of 0.15%, for which she provides no explanation. The Commission's cost of common equity finding, including the calculation of any adjustments, must be supported by the record and not based merely on the whims of a particular analyst.

In fact, the Company's argument is the quintessential red herring, in which an extremely high, but inapplicable, adjustment is presented and used to rationalize any smaller adjustment as not only appropriate, but "conservative," when, in fact, no risk adjustment has been substantiated at all. Ms. Ahern failed to establish that IAWC's business risk is any higher than that of the companies in her samples. Although she discussed the effect of certain risk factors on IAWC, aside from her speculative market value size comparison, she never addressed the effects of those risk factors on the companies in her samples. Such a one-sided "comparison" of business risk provides no basis for a relative business risk adjustment. Likewise, she failed to present a comprehensive review of total business risk, which may have revealed other risk factors affecting the companies in her samples more adversely than IAWC. That is, even if the risk factors she cited do affect IAWC more negatively than they affect her samples, which she did not demonstrate, there may be other factors that affect her samples more

negatively than they affect IAWC that she did not consider. For that reason, a business risk adjustment cannot be restricted to selected risk factors, but must reflect total business risk. Her failure to do so renders her business risk adjustment unfounded.

Finally, even if one ignores all the above arguments and assumes a business risk adjustment is well-founded, which it clearly is not, it would already be reflected in the 30 basis point "financial risk" adjustment Ms. Ahern added to her preliminary cost of common equity estimate. Despite Ms. Ahern's label, that adjustment is actually a total risk adjustment, as it is based on credit ratings, which reflect both business risk and financial risk, as confirmed by her own documentation. Thus, no separate business risk adjustment is warranted. (*Id*., p. 35.)

V. COST OF SERVICE

The demand factors proposed by IAWC for its cost of service study are fundamentally flawed and do not produce an accurate allocation of the cost of service among rate classes. Consequently, the cost of service study results developed by IAWC should not serve as the foundation for allocating the revenue requirement among rate classes. Since the data provided by the Company in this proceeding does not support a reasonable alternative, the Commission should institute any changes in class revenues on an across-the-board, equal percentage basis.

With respect to rate design, the problems with the Company's cost of service study results should not be a bar to considering specific proposals presented by the parties on their own merits in this proceeding.

A. Demand Study

The maximum day and maximum hour demand factors proposed by IAWC in this case are fundamentally flawed and should not be used for ratemaking. (Staff Ex. 6.0, p. 2; Staff Ex. 13.0, pp. 5-6, 17.) Furthermore, there is no basis for developing a meaningful alternative to the Company's proposed factors based on the data presented in this case. (Staff Ex. 13.0, p. 18.)

The derivation of demand factors is a critical step in the cost allocation process because they must reflect costs in order to ensure that each class receives a reasonable share of system costs. (Staff Ex. 6.0, p. 10.) The development of accurate demand factors has been a longstanding issue for IAWC, extending as far back as the Company's 2002 rate case (Docket No. 02-0690). In that case, the Commission noted concerns that the demand ratios being used "are based on outdated data." (Order, Docket No. 02-0690, August 12, 2003, p. 119.) The Commission explained that:

> With regard to this issue, as stated above, Staff has recommended that IAWC be required to present updated customer demand factors in the Company's next rate filing. The Commission believes such information will help address the concerns cited by other parties. Accordingly, IAWC is directed to provide updated demand factors for each rate area for which a rate increase is proposed.

(*Id*., p. 120.)

IAWC responded by presenting a new set of demand ratios in its next rate case (Docket No. 07-0507) based on a demand study performed for the Interurban district. (Staff Ex. 6.0, p. 11.) However, the Commission found this approach problematic, concluding that IAWC "did not comply" with its directive in Docket No. 02-0690 because the Commission sought demand studies for all districts and IAWC performed a study for only one. (Order, Docket No. 07-0507, July 30, 2008, p. 121.) The Commission went

on to state, "[w]hy IAWC disregarded the Commission's directive to provide a demand study for each district is unclear to the Commission, but it is crystal clear from the discussion in the 02-0690 Order regarding cost of service and rate design why this information is necessary and was required." (*Id*.)

The deficiencies in the Company's analysis led the Commission to reject the use of the cost studies for designing rates in that case. (*Id*., p. 122.) The Commission took the additional step of initiating a follow-up docket (Docket No. 08-0463) to address cost of service and rate design issues. The Initiating Order directed IAWC "to provide updated demand factors for each area and an updated cost of service study." (Initiating Order, July 30, 2008.) The Commission further directed that a schedule be adopted to "put the Commission in a position to have an order before it for consideration at the earliest possible time consistent with statutory mandates and due process of law." (*Id*.)

The first key issue for Docket No. 08-0463 concerned the derivation of demand factors for the cost of service study. There were two alternatives to consider. One was to measure demands directly by placing time-sensitive meters on a sample of customers to measure their demands on a real time basis. The second was an indirect approach which entails estimating these same demands with available data that currently exists and thereby avoiding the time and expense of direct measurement. (Staff Ex. 6.0, p. 12.)

IAWC proposed to use an indirect method to develop these factors. One of the reasons cited for this approach is that demand factors can be developed more quickly which would enable the Company to meet the expedited timeframe sought by the Commission for this case. A direct measurement approach would have taken much

longer due to a need to install time-sensitive meters and then collect data over a full summer period. Since the Initiating Order for Docket No. 08-0463 was issued in the summer of 2008, the requisite data for a demand study could not be gathered before the end of the 2009 summer. That would delay the start of any proceeding to address cost issues until the fall of 2009 at the earliest which would conflict with the Commission's objective of entering an order "at the earliest possible time." (*Id*., pp. 13-14.)

The indirect method also presents a cost advantage over the direct approach. It avoids the expenses associated with installing time sensitive meters, gathering data from those meters and developing demand factors from the data which would have to be conducted under a direct study. (*Id*., p. 14.)

Given these advantages, the parties to Docket No. 08-0463 sought approval for the Company to use an indirect approach to develop demand factors through a Joint Motion to the Commission. That motion was approved and the Company proceeded to develop an indirect estimate of these factors.

The Commission's approval of this Joint Motion has raised an issue for the current proceeding. The Company has gone on to argue that approval of this Joint Motion in some way constitutes Commission support for the specific method IAWC proposes to estimate demand factors in this case. (IAWC Ex. 13.00R1, pp. 2-3.) IAWC contends that the Joint Motion, in fact, presented a "detailed" plan for devising demand factors on an indirect basis. Therefore, the Commission's approval of that motion represents acceptance at some level for the specific method IAWC proposes to estimate class demand factors in this case. (Staff Ex. 13.0, p. 6.)

The Company's claim about the nature of the Joint Motion is not supported by the evidence. The discussion in the Joint Motion falls far short of the standard for a "detailed" plan. (Staff Ex. 13.0, pp. 7-8.) Rather it describes in general terms the method to be employed in estimating ratepayer demands. (Staff Ex. 6.0, p. 14.) For the maximum day, the motion states that "[t]he system's maximum day to maximum month ratio…will be used to adjust customer class average day demands for the maximum billing period to annual average day ratios for each respective year." It also notes that "[a]dditional adjustments will be used to recognize potential variations in weekly water use by customer class. To the extent possible, actual demand data will be reviewed and used as a possible basis for establishing potential weekly use adjustment factors." (Joint Motion, October 3, 2008, Att. A, p. 2, Task 4.) That is the extent of the discussion for this factor. (Staff Ex. 6.0, pp. 15-16.)

The discussion of the proposed method for estimating relative class maximum hour demands is general as well. (*Id*., p. 15) The motion states that "[m]aximum day ratios…will be used to estimate maximum hour to average day ratios based on the manner in which each customer class typically uses its water during the day." It goes on to indicate that "[t]o the extent possible, actual demand data will be used as a basis for establishing potential maximum hour to maximum day adjustment factors." The motion also indicates that "[w]here available, actual maximum hour demand data will be used to verify the estimated maximum hour ratios. Recognition will be given to differences in available sale for resale customer's storage capacity which will dampen the maximum hour demands of some sale for resale customers more than others." (*Id*.)

The general nature of the content shows that the motion clearly left to a later date the development of a specific plan for deriving these demand factors. (*Id*.) Thus, the Commission was only accepting a general plan to calculate these demand factors on an indirect basis. Since the Company's specific demand factor methodology was presented not in that motion, but rather in the demand study contained in the Company's initial filing for Docket No. 08-0463 and subsequently refiled in this proceeding, there is no basis to conclude that the Commission has given prior approval in any form IAWC's proposals in this case.

1. IAWC's Proposed Methodology

IAWC employs what it terms a "Multi-Year Study" to develop its proposed maximum day and maximum hour capacity factors. (IAWC Ex. 13.00, p. 4.) The Company states that this methodology is based on the approach outlined in AWWA's M-1 Manual. (IAWC Ex. 13.01(Rev.), p. 2.)

As a first step, IAWC examines pumpage data for the various districts to determine the years with highest ratios of maximum demand to average demand. (*Id*.) IAWC then focuses on developing demands for individual customer classes. This entails dividing the class' average daily demand for the peak month by the average daily demand for the year to calculate what it terms the "minimum maximum day capacity factor." (Staff Ex. 6.0, p. 18.)

To develop maximum day demand ratios for all Illinois districts from these factors, IAWC introduces pumpage data for four Chicago Metro areas into the calculation. (*Id*.) The Company uses this data which comes from 2,161 accounts because the accounts are almost entirely residential and because IAWC considers

these customers to reflect the pattern of usage by all Illinois customers over the course of the peak month. (*Id*.)

Specifically, the Company determined that peak day pumpage during the peak month of July 2005 amounted to 1.578 times the average daily pumpage for that month. (IAWC Ex. 13.01 (Rev.), p. 16.) This ratio was then used to derive residential maximum day ratios for all Illinois districts. IAWC began with the daily variation for each system which is the system's maximum day demand divided by average daily flow for the year's maximum month. The Company then divided the figure of 1.578 from the four Chicago areas by each system's daily variation to generate residential daily variation ratios for each district as shown in Table 8 on p. 15 of IAWC Ex. 13.01 (Rev.). The calculation of residential maximum day capacity factors for each district is the product of: (a) the district maximum day to average day pumpage ratio; (b) the minimum maximum day capacity factors for the residential class; and (c) the residential daily variation ratio. (Staff Ex. 6.0, p. 19.)

The Company provides a perfunctory argument for using the Chicago Metro data to develop demand factors on a statewide basis. IAWC states that application of the data to the various districts produced a range of diversity factors for districts of 1.1 to 1.4 which is "identified as acceptable in AWWA Manual M1." IAWC goes on to state that "[b]ecause use of the calculated Residential MD/ADMM for the four Chicago Metro districts corroborated the preliminary RDV factors, it was determined that basing the final proposed capacity factors on calculated Residential MD/ADMM was appropriate." (*Id*., p. 20.)

Company witness McKinley further contends that the data from the 2,161 Chicago Metro accounts "is the type of 'actual' data that, in accordance with the Methodology, was to be used in the Demand Study to the extent it was available." (IAWC Ex. 13.00R1, p. 8.) He also seeks to tie this data to the results of the Company's 2007 Interurban demand study, arguing that "[t]he 1.578 Residential MD/ADMM value determined for Chicago Metro residential customers falls between the MD/ADMM values determined for the low (R3) and medium (R2) residential customers in the Interurban service area and is very close to the weighted coincidental average of 1.533 for the two Interurban residential subclasses." (*Id*., p. 9.)

The maximum day capacity factors for the commercial class were developed in a similar manner to the residential capacity factors. (Staff Ex. 6.0, pp. 20-21.) The starting point is the system maximum day to average day ratios and residential daily variation ratios employed for the residential class. The calculation then incorporates the ratio of average peak month daily usage to average annual daily usage for the commercial class, rather than the residential class. (*Id*.)

The Company further multiples this figure by the class variation to produce the demand factor for the commercial class. (IAWC Ex. 13.01 (Rev.), p. 18.) This class variation is designed to reflect the scale of commercial class peak demands in comparison to residential peak demands over the maximum month. It represents a judgment about the scale of that class' peak demands relative to residential peak demands, based on relative class capacity factors from Docket No. 07-0507 and evidence from Docket No. 02-0690 and Docket No. 00-0340. The Company indicates that greater weight was accorded to factors from the earlier dockets in deriving these

estimates. (*Id*., p. 17.) As a result of this process, the Company estimates commercial variation to be 85% of the residential level. Thus, multiplying the maximum day capacity factors by this 85% significantly reduces the maximum day capacity factor for the commercial class relative to the residential class as shown on Table 11 of IAWC Ex. 13.01 (Rev.), p. 20. A similar process is used to develop demand factors for other classes on the IAWC system. (Staff Ex. 6.0, p. 21.)

These class variations for non-residential customers present a number of problems. (*Id*.) One is that IAWC relies on old data from previous cases for its calculations. (IAWC Ex. 13.01R1, pp. 17-18.) Second, there is no variation in these class variations from one district to the next. (Staff Ex. 6.0, p. 21.) So, for example, the Company pegs the commercial class variation at 85% of the residential level within the maximum month, regardless of their relative month-to-month variations in usage. (*Id*., p. 20.) Since these class variations within the maximum month play a key role in the development of both maximum day and maximum hour demand factors, IAWC's failure to justify the percentages it employs fails to demonstrate the reasonableness of the results obtained. (*Id*.)

The Company's proposed demand factor methodology presents a number of other problems that undermine its value for use in the ratemaking process. (*Id*., p. 22.) The primary problem concerns the use of Chicago Metro maximum month ratios to produce maximum day demand factors for all classes in all districts. *(Id.)* The Company has failed to demonstrate that the pattern of demands for these Chicago Metro customers accurately reflects the demands of IAWC customers on a statewide basis.

In fact, there is reason to believe that Chicago Metro usage is more weather-sensitive than other districts. (*Id*.) A comparison of residential usage patterns for each of IAWC's Illinois districts indicates that Chicago Metro has a significantly higher ratio of average daily usage for the peak month relative to residential daily usage for the year than other districts in the state; 147% vs. a range from 110% to 135% elsewhere. (Staff Ex. 6.0, Schedule 1.) These figures suggest that Chicago Metro has a greater share of weather-sensitive demand than other districts in the state. Therefore, Chicago Metro residential customers may exhibit greater daily variation in usage than residential customers in other districts not just on an annual basis but also during the course of the maximum month. . (Staff Ex. 6.0, pp. 22-23.)

The Company for its part seeks to counter the argument that Chicago Metro customers may have more weather sensitive usage than other customers in Illinois. IAWC witness Mr. McKinley argues that "[t]hese residential demands can be influenced by weather conditions as Mr. Lazare asserts, but they can also be influenced by general economic conditions in the service area, relative efficiency on fixtures and toilets, availability of automatic irrigation systems, yard size, type of grass, relative mixture of single family versus multifamily units, or customer preferences and priorities for yard maintenance." (IAWC Ex. 13.00R1, p. 10.)

The problem is that Mr. McKinley's argument undermines his own position. Many of the water uses he references, such as of automatic irrigation systems, yard size, type of grass and customer preferences and priorities for yard maintenance, could be considered weather sensitive usage. (Staff Ex. 13.0, p. 12.)

Mr. McKinley also seeks to support the Company claim that residential customers may have higher maximum day ratios than other classes even when their ratio of average daily use for the month to average daily use for the year is lower. When commercial customers exhibit a higher ratio of ADMM to annual average day usage than residential customers he still expects their daily demands variations within the maximum month "to be lower" than for residential customers "because their water usage is less influenced by weather conditions." (IAWC Ex. 13.00R1, p. 15.) Mr. McKinley goes on to argue that "[t]his conclusion is supported by the overall resulting capacity factors by class, the resulting diversity ratios, which are in the range of reasonableness, and the class capacity factors previously utilized by IAWC in its rate filings which have been accepted by the Illinois Commerce Commission in previous rate case dockets." (*Id*.)

The Company's methodology can produce some anomalous results. For example, residential customers in the Interurban area have an average day for the peak month to the average day for the year ratio of 134.6% compared with a ratio of 164.5% for the Other Water Utilities class. (IAWC Ex. 13.01R1, Table 7, p. 15.) This means that a much higher proportion of the annual usage by the Other Water Utilities class occurs during the peak month than for the residential class. However, IAWC assumes significantly less variability for the Other Water Utilities class for usage within the peak month to the point that its maximum day capacity factor falls below the residential level (190% vs. 195%), despite its much higher variation on a month-to-month basis. (Staff Ex. 13.0, p. 13.) Nevertheless, IAWC calculates a higher ratio of the maximum day to

the average day for the year for the residential class than for the Other Water Utilities class. (*Id*.)

Why usage patterns within the maximum month should conflict with usage from one month to the next is not adequately explained by IAWC. (*Id*., p. 14.) In fact, if residential usage exhibited greater variability due to weather conditions, then a greater share of their annual usage could be expected to occur during the maximum month. *(Id.)* However, the actual data indicates otherwise. (*Id*.)

Company witness McKinley seeks to address this discrepancy in his surrebuttal testimony. He contends that "residential water usage is influenced more by weather conditions than other types of usage than other customer classes and thus a greater share of annual residential usage naturally occurs in typically hotter and dryer summer months than other months." (IAWC Ex. 13.00SR, p. 10.) The problem is this statement is unresponsive to the issue at hand. For one, it does not explain why other classes have been found to consume a higher share of their annual usage in the maximum month than the residential class. Nor does it explain why this perceived variability for the residential class should be manifested only within the maximum month. Until IAWC satisfactorily explains these discrepancies, the Company's argument remains saddled with a fundamental contradiction.

Another problem concerns the Company's effort to compare the Chicago Metro numbers with the results of the 2007 Interurban demand study. (Staff Ex. 13.0, p. 9.) First, as Mr. McKinley himself notes, the comparable Interurban figure is for only two of the three residential groups tested and does not include the high density (R1) customer

group. (*Id*.) How the inclusion of this customer group would impact the comparison has not been identified for the record. (*Id*.)

A further question arises concerning the usefulness of the Interurban data because the peak hour usage for the low density (R3) customers occurred at 4:00am. (IAWC Schedule 11.02, Docket No. 07-0507, p. II-4.) This usage pattern suggests that peak water demand for these customers must be driven by automatic lawn watering or some unknown use and the question arises whether this behavior reflects residential water use throughout Illinois. (Staff Ex. 13.0, p. 9.)

The exclusion of the high density group in Interurban study and the fact that water demand by the low density group peaks at 4am make it difficult to understand how a comparison with the average of the medium and low density demand factors from that study supports the use of the Chicago Metro figures on a statewide basis. In addition, the 2007 study cited by the Company calculates a maximum hour ratio for the Interurban residential class of 6.0. (IAWC Ex. 11.01, p. I-4.) In contrast, the Company incorporates the Chicago Metro results to calculate a maximum hour ratio for Interurban, in this case of 2.45. (IAWC Ex. 13.01R1, p. 23.) This difference further undermines Mr. McKinley's comparisons between the Chicago Metro and Interurban demand data. (Staff Ex. 13.0, pp. 9-10.)

An issue also arises concerning the Company's reliance on diversity ratios that comport with the AWWA M-1 Manual to support his proposed demand factors. IAWC uses the manual in a selective manner. When it supports IAWC's position, the Company is quick to cite the manual. However, when the manual comes into conflict, the Company states that it should be disregarded. For example, Staff had cited the

statement in the AWWA M-1 Manual that residential daily variation during the maximum month generally falls below the variations for the commercial and industrial classes. (Staff Ex. 6.0, p. 29.) Company witness McKinley responded by asserting "the discussion in the AWWA Manual is largely related to a hypothetical example included in the Manual that does not have the benefit of actual demand data, such as that used in the Revised Study from the Chicago Metro districts." (IAWC Ex. 13.00R1, p. 16.)

Mr. McKinley's argument is flawed in three respects. First, the Manual does not suggest that this statement is limited to hypothetical situations. Rather, it is a clear observation that "[f]or residential customers, there is also likely to be some daily variation in usage throughout the maximum-month, although it is typically likely to be less than the commercial and industrial class variations." (AWWA M1 Manual, p. 298.) Second, if this discussion in the Manual can be dismissed as pertaining to hypothetical systems only, then the sections of the Manual that Mr. McKinley relies to support his proposed demand factors can likewise be disregarded on the same basis. Third, the Chicago Metro data is data for the residential class only. The Company's demand variations for other classes reflect assumptions based on results from previous cases. (Staff Ex. 13.0, p. 11.)

The Company's use of data from these 2,161 Chicago Metro accounts on a statewide basis presents other problems as well. For one, it is inconsistent with the Order for Docket No. 07-0507 which criticized the Company for using data from one district, Interurban, to produce demand factors on a statewide basis. In that Order the Commission stated it "is not convinced that the demand factors for the Interurban District are reasonable proxies for the demand factors in IAWC's remaining districts."

The Commission went on to conclude that "[d]ue to IAWC's decision not to provide demand factors for each district, as directed by this Commission in Docket No. 02-0690, the Commission does not have an accurate estimate of the cost of serving each customer class in each district." (Order, Docket No. 07-0507, July 30, 2008, p. 121.)

The Company again proposes to apply demand patterns for customers in one district to usage by customers in other districts. Thus, the concerns expressed by the Commission in Docket No. 07-0507 about whether the demands in one district would be "reasonable proxies" for other districts apply in this case as well. (Staff Ex. 6.0, pp. 26-27.)

Other conflicting evidence concerning demand factors for residential and non-residential customer comes from the results for the most recent demand study using time-sensitive meters conducted by an IAWC affiliate. That study measured 2008 demands for customers in West Virginia and found the maximum day and maximum hour demand factors for Residential, Commercial and Public and Industrial classes to be virtually the same. (*Id*., pp. 29-30.) This example indicates it may not always be reasonable to assume that the residential class will have a higher ratio of peak day demands to average day demands than other classes. (*Id*.)

Furthermore, it should be noted that while this recent data from West Virginia may not be appropriate for developing demand ratios for the IAWC districts, there is also a lack of evidence to use the demands of the four Chicago Metro areas in developing IAWC's proposed ratios across Illinois. (*Id*., p. 30.)

IAWC witness McKinley's first response to the discussion of the West Virginia demand study was to say that he found it "difficult to comment on the applicability of the

West Virginia data" because he is "not familiar with the customers that compose the various customer classes nor the study related to determining the indicated demand factors." (IAWC Ex. 13.00R1, p. 16.) Nevertheless, this lack of familiarity does not prevent Mr. McKinley from speculating about why the results of the study should not be considered applicable to the IAWC system. He posits that "if residential customers have small yards or do not irrigate their yards as much as residential customers in other regions, while the commercial or public customer class includes such high demand customers as golf courses or high schools and colleges with irrigated football or other playing surfaces, it is possible for such customers to exhibit higher demands than the residential customer class." Mr. McKinley then states that "[i]n summary, I am not fully aware of the circumstances related to the variations in class demands for the West Virginia situation, but it is clear that the class characteristics there are quite different from those experienced in the Demand Study performed for the Company's Illinois systems." (Staff Ex. 13.0, pp. 15-16.)

This discussion presents a host of problems. If Mr. McKinley is unfamiliar with the West Virginia study, then he has no basis on which to compare the class characteristics in that study with Illinois or anywhere else for that matter. In addition, it is not clear how Mr. McKinley can justify a lack of knowledge because the West Virginia study was prepared by another Company witness in the case, Mr. Paul Herbert. (IAWC Response to PL 3.02, Attachment-R1.) If Staff is able to gather information concerning this study, there is no reason why a Company witness should be unable to do the same. Either Mr. Herbert could have provided testimony on the West Virginia study or briefed Mr. McKinley on the results. At a minimum, it is unreasonable under these

circumstances for the IAWC witness testifying on this matter to plead ignorance about the study. (Staff Ex. 13.0, p. 16.)

The evidence clearly indicates that the Company's methodology for developing demand factors should not be used to design rates in this proceeding. This conclusion even applies to the Chicago Metro district where these 2,161 residential accounts are situated. (Staff Ex. 6.0, p. 31.) Chicago Metro is included because questions remain concerning the differences between measured demands for customer classes on a monthly basis and assumptions about variations in demand on a daily basis over the maximum month. (*Id*.) As previously noted, the Chicago Metro Residential class has a lower ratio of average maximum month daily demand to average annual daily usage than the Commercial class; i.e., 146.7% vs. 164.6%. (IAWC Ex. 13.01 (Rev.), Table 7, p. 15.) Despite the fact that this monthly variation is lower for the Residential class than the Commercial class, the Company assumes that variation within the maximum month is greater for the Residential class than for the Commercial class. (Staff Ex. 6.0, p. 31.) The Company has failed to provide sufficient evidence to support this assumption and, therefore, has failed to demonstrate the reasonableness of its proposed demand factors for the Chicago Metro district. (*Id*.)

The evidence clearly demonstrates that IAWC's proposed maximum day demand factors are fundamentally flawed and unfit for use in the ratemaking process.

2. Maximum Hour Demand Factors

The maximum hour demand factors developed by IAWC are problematic as well. As a result they also are not suitable for use in allocating the cost of service among rate classes. (Staff Ex. 6.0, p. 36.)

The residential factors were developed as a multiple of three factors. One is the maximum day capacity factors for the residential class in each district. The second is the ratio of the system maximum hour pumpage divided by the average hour pumpage for the maximum day. The third multiple is the residential hourly variation. According to IAWC, this factor adjusts "the system's coincidental maximum hour demands to recognize that the system coincidental maximum hour demands are not equally shared by all customer classes." (IAWC Ex. 13.01 (Rev.), p. 22.)

The residential hourly variation is calculated by dividing the non-coincident peak demands for all classes by the maximum hourly demands for each class adjusted by their maximum hour variations. (Staff Ex. 6.0, p. 34.) These maximum hour variations seek to estimate the share of the class peak demand that occurs at the time of system peak demand. For the residential class, the non-coincident peak is assumed to occur at the time of system peak and no variation is assumed for the class. (*Id.,* pp. 34-35.) For the commercial class, 90% of peak demand is assumed to coincide with the system peak, so the commercial peak demand is multiplied by 90%. (*Id*.) The assumption for the remaining three classes, industrial, other public authority and sales for resale, is that 85% of the peak demand coincides with the system peak, so their peak demands are each multiplied by 85%. (*Id*.)

So, for example, the Company explains the calculation of the residential hourly variation for the Champaign district as follows. The noncoincident peak demand for the district of 49,775 is divided by the sum of 26,980 x 1.00 (residential class) plus 8,185 x 0.90 (commercial class) plus 2,816 x 0.85 plus 1,218 x 0.85 plus 7,331 x 0.85 plus 3,245 x 0.85 (industrial, other public authority and sales for resale classes). This yields

a residential hourly variation of 1.0644. Thus, the Company states that "residential customers are anticipated to have a maximum hour to maximum day relationship that is 6.44 percent higher than the system's coincidental relationship." (IAWC Ex. 13.01 (Rev.), p. 23.)

IAWC's maximum hour customer class variances are based on demand data from its last case, Docket No. 07-0507 as well as the capacity factors used in both Docket Nos. 02-0690 and 00-0340. The Company indicates that more weight was accorded to the data used in Docket Nos. 02-0690 and 00-0340 to establish class variations. (*Id*., p. 21.)

Maximum hour capacity factors were calculated for other classes in a similar manner as the calculation of residential demands. (Staff Ex. 6.0, p. 36.) The starting points are the respective maximum day capacity factors for remaining classes as calculated by IAWC. (*Id*.) Those figures are then multiplied by: (1) the system maximum hour to maximum day ratio; (2) the residential hourly variation; and (3) the customer class variation for each class. The inclusion of these variations seeks to recognize that the peak demand for non-residential classes do not fully coincide with system peak demand. *(Id.)*

The key problem with the maximum hour capacity factors developed by IAWC lies with the starting point, the maximum day demand factors for each class which have been show to be fundamentally flawed. (*Id*., pp. 36-37.) Thus, the inclusion of these maximum day demands in the Company's calculation of maximum hour factors makes them problematic as well and, thereby, renders them unsuitable for ratemaking in this case. (*Id*., p. 37.)

3. Staff's Recommendation

The demand factors proposed by IAWC clearly are not appropriate for ratemaking based on the evidence presented in this case. However, no reasonable alternative has been developed that can be used to derive an accurate set of cost study results.

Staff did develop an alternative demand factors methodology in direct testimony for this case. (Staff Ex. 6.0, pp. 31-33.) That approach was based on the operating statistics presented in IAWC's direct case which indicated that the application of Chicago Metro residential ratios to other districts produces residential usage variations over the maximum month significantly above the variation in pumpage for the system as a whole over that same maximum month. Thus, the data indicated that maximum month daily variation is significant for the residential class but minimal for the system as a whole which meant that other customers must use significantly less than average usage on the maximum day to balance the residential maximum day usage calculated by IAWC. Staff considered this an unlikely scenario and developed an alternative demand factor approach which addressed this discrepancy. (*Id.*)

However, the Company stated in rebuttal that the operating statistics on which the alternative Staff approach was based are inaccurate. IAWC witness McKinley states the Company reexamined those statistics in response to the Staff discussion of these conflicting variations over the maximum month and discovered that it had overstated the levels of average daily deliveries for the maximum month in a number of operating districts. Thus, the Company found it necessary to revise these average operating statistics for all districts, save Chicago Metro, Interurban and Pontiac. (IAWC

Ex. 13.01R1, p. 11.) These revisions increased the daily variations during the maximum month for all IAWC systems other than Chicago Metro. (IAWC Ex. 13.01R1, Table 8, p. 15.)

These revisions eliminated the inconsistencies between the variations for the system and the residential class for the non-Chicago districts over the maximum month. As a result, Company witness McKinley that the data revisions undermine the argument for Staff's alternative demand factors. He states that "the use of the corrected data and the resulting ratios of MD/ADMM essentially eliminates Mr. Lazare's previous concern related to the very low system MD/ADMM, as compared to the residential MD/ADMM, originally shown for Pekin and his resulting concerns about low levels of usage by non-residential classes during the system maximum month." (IAWC Ex. 13.01R1, pp. 12-13.)

On this issue at least Mr. McKinley is correct. Staff's alternative demand factors were designed to address the apparent discrepancies in the maximum month daily variations for residential class for Pekin and other districts on the IAWC system. To the extent that the revisions to the data eliminate these discrepancies, the justification for Staff's alternative demand factors disappears. (Staff Ex. 13.0, pp. 3-4.)

The fact that Staff's alternative methodology is no longer applicable does not, however, make the Company's proposed maximum day and maximum hour demand factors a more reasonable alternative. The fundamental problems with those factors remain and they are of sufficient magnitude to undermine the accuracy of the Company's cost study results. (*Id*., pp. 5-6.)

4. Direct Measurement vs. Indirect Estimation

The evidence in this case calls into question the Company's reliance on an indirect approach rather than direct measurement to calculate demand factors. The indirect approach is a less costly alternative because direct measurement through the use of time-sensitive meters for a sample of customers can be a costly option. (Staff Ex. 6.0, p. 38.) That cost is multiplied if the Company is required to separately measure demands in each of its districts as the Commission has ordered. (*Id*.) When asked in discovery to estimate the cost of developing demand factors through the direct measurement of ratepayer demands, the Company provided a figure of $1.86 million for such an analysis. (*Id*.)

Another advantage of the indirect approach is time. (*Id*., p. 38.) Direct measurement of ratepayer demands requires installing meters before the summer starts and then collecting data until the summer season ends. (*Id*.) In contrast, an indirect measurement can be performed at any time based on data that already exists. In this case where the Commission has encouraged the Company to produce results on an expedited basis, the indirect method offers a clear advantage. (*Id*.)

The advantage of direct measurement (if performed correctly) is accuracy. (*Id*., pp. 38-39.) The indirect calculations of maximum day and maximum hour demand factors presented by the Company employ judgments about the behavior of customer classes within the maximum and maximum day that may or may not conform to reality. (*Id*., p. 39.) The most accurate way to test the validity of these judgments would require some form of directly measuring ratepayer demands. (*Id*.)

There is a tradeoff between cost and accuracy. (*Id*.) In the current economic environment it would be difficult to justify the additional cost of embarking on a course of directly measuring ratepayer demands to derive demand factors. That would entail adding further upward pressure on rates that have been rising for a number of years. At the same time, the indirect methodologies presented so far in this case present problems and thereby undermine the value of the Company's cost of service study results. The lack of a viable alternative at this juncture is a reason to consider moving forward with a direct study despite the potential impact on system costs. (*Id*.)

IAWC witnesses McKinley and Kaiser seek to defend the Company's indirect methodology. Mr. McKinley challenges the contention that direct measurement would produce more accurate results, arguing that "such measurements are not commonly utilized in the water industry" and "are prone to potential adverse conditions or shortcomings." (IAWC Ex. 13.00R1, p. 4.) The shortcomings he identifies include: (1) metering equipment failures that produced incomplete data in the 2007 study; (2) the demand study can impact fire protection in affected areas; (3) the sampled period may be a "wet" year and recorded demands may not reflect peak demands; and (4) the cost of requisite meters may prevent the development of a sufficient-sized sample to be representative of an entire customer class. (*Id*.)

Mr. Kaiser presents similar arguments to Mr. McKinley on this issue. One argument is that a direct measurement approach may require a number of years to estimate peak demands because lingering weather conditions may suppress usage levels for a number of years and thereby drive up costs in the process. Mr. Kaiser further argues that a direct demand study could be inaccurate if the sample selected is

not representative of the class as a whole. Mr. Kaiser goes on to echo Mr. McKinley's concerns that a metering program raises operational concerns because some main connections may be reduced to support the metering process. Mr. Kaiser also cites the time and cost for a direct measurement program, noting that it may take 18-24 months and cost an estimated $1.86 million. Thus, he concludes that the Commission should reject the implementation of a direct demand study. (IAWC Ex. 3.00R1, pp. 1-3.)

The Company's arguments are not persuasive. It is certainly true that an indirect methodology is the faster and less expensive alternative. (Staff Ex. 13.0, p. 22.) The problem lies with the accuracy of the results obtained under this approach. (*Id*.) As the evidence in this case shows, the deficiencies in IAWC's methodology are of sufficient scale to undermine the value of the results. So, it is not clear how IAWC ratepayers benefit from a cheaper study that produces meaningless results. (*Id*.)

With regard to the time and expense for a direct demand study, it is difficult to reconcile the arguments by Mr. McKinley and Mr. Kaiser about costs with the actual expenses IAWC's parent company, American Water, has recently incurred in performing a demand study based on direct measurement. The Company initially indicated that the direct measurement demand study for West Virginia American Water Company performed in 2008 cost a grand total cost of $27,293. This is a far cry from the $1.86 million cited by IAWC to perform an Illinois study. (*Id*., p. 23.)

The Company did indicate in surrebuttal that this $27,293 it had previously provided is incorrect. Company witness Herbert elaborated on the cost, stating "[t]he cost for the study alone was over $54,000, which number included only the data analysis and preparation of the report for the Company's two service areas." Mr.

Herbert goes on to state that "[t]here were also considerable expenditures for equipment and Company personnel time that are not included in the cost." (IAWC Ex. 9.00SR, p. 4.)

When the Company corrects numbers at this stage of the process, it is difficult to understand the changes that are made and to ascertain the accuracy of the revised figure within such a short timeframe. Nevertheless, the alternative figure provided of $54,000 still falls far short of the $1.86 million cited to perform an Illinois study and the Company still at this juncture has failed to bridge the gap with the West Virginia study.

Mr. Herbert also cites testimony by Mr. Kaiser that "that there are operational and cost concerns associated with a direct measurement study." Mr. Herbert goes on to state that "in order to be assured that the study encompasses usage under peak conditions, the study may have to be conducted over a number of years." (*Id*., pp. 4-5.)

It should be noted that Mr. Herbert fails to identify any operational or cost concerns with the West Virginia study he conducted. Nor does he reconcile this statement about conducting a study over a number of years with his experience of performing a demand study in West Virginia within a single year. This makes it difficult to ascertain whether the problems he cites are valid.

In sum, the Company has failed to make a compelling case for the use of its indirect calculation methodology. Given the importance to all rate classes of allocating costs fairly and accurately, the Commission should adopt a direct demand calculation approach that accurately calculates ratepayer demands on the IAWC systems.

B. Cost of Service Study

There are two key steps to allocating system costs among rate classes. The first entails selecting appropriate allocators for system costs and the second concerns the

way that the individual allocators are calculated. For cost study results to be reasonable, not only must the set of proposed allocators accurately reflect costs, but those allocators should be developed in an accurate manner. If either step falls short then cost allocations will be inaccurate and the results of the study will be flawed. (Staff Ex. 6.0, pp. 3-4.) Staff has found that the structure of the Company's proposed cost of service study and the allocators chosen for that study to be reasonable for this proceeding. (However, the way those demand factors are developed is another issue, as explained in the Demand Study section of this brief.) IAWC uses the base-extra capacity method to allocate system costs to the residential, commercial, industrial, other public authorities, sales for resale (including large sales for resale), private fire protection and public fire protection classes. (IAWC Ex. 9.00, pp. 4-5.) This approach is comparable to the average and excess method for allocating gas and electric utility costs. (Staff Ex. 6.0, p. 4.) Average demands are used to allocate the base portion of system costs and noncoincident peak ("NCP") demands are used for the "extra" component of costs meeting the demands that exceed the average. NCP demands are the maximum demands for each individual customer class during the year. (*Id*.)

IAWC supports the use of NCP demands to allocate "extra" costs by citing the discussion in the AWWA M 1 manual which focuses on the benefits to the system of customer diversity. (Staff Ex. 6.0, p. 5.) The argument notes that if separate systems had to be built for individual customer classes, each would have to be sized to meet the peak demands of that class. However, constructing a system to collectively serve all classes allows the total capacity built to be downsized because of customer diversity.

(*Id*.) The base-extra method considers the NCP demands an appropriate measure of these diversity savings for rate classes. (*Id*.)

The Company further contends that the base-extra approach "is a recognized method" for allocating water costs "in proportion to the classifications' use of the commodity, facilities, and services." The Company goes on to note that this approach has been used in previous cases. (IAWC Ex. 9.00, p. 5.)

The key argument that makes the base-extra approach acceptable for ratemaking in this case is its consistent use in previous water rate cases in Illinois. (Staff Ex. 6.0, p. 6.) By consistently adopting this approach the Commission has signaled acceptance of the base-extra methodology for water cost of service studies. For this reason, Staff finds it acceptable for use in this case. (*Id*.) The specific allocation factors chosen by the Company for its cost study also appear to be reasonable. That approach features the allocation of costs such as purchased water, purchased electric power, treatment chemicals and waste disposal according to average usage because these are base costs incurred in proportion to the amount of water consumed. (IAWC Ex. 9.00, p. 6.) The Company indicates that costs such as other source of supply, water treatment and transmission costs are sized to meet peak demands and consequently are allocated by a combination of factors, including base average daily demands, maximum day extra capacity, and according to fire protection costs for certain pumping stations and transmission mains. (*Id*., pp. 6-7.)

Storage costs and distribution mains are allocated by a combination of average daily demands and maximum hour extra demand including fire demand which these

facilities are designed to serve. Fire demands are allocated between public and private fire protection according to their relative potential demands on the system. (*Id*., p. 7.)

IAWC's proposed study allocates pumping facilities costs and mains operating and maintenance by both maximum day and maximum hour extra capacity because these facilities serve both functions. Costs for meters and services are allocated by "equivalents" in terms of size and quantities serving each customer class. Public fire hydrant costs are assigned to public fire protection. (*Id*., pp. 7-8.) Customer costs such as customer accounting, billing and collecting are allocated on a customer basis while meter reading are allocated by the number of metered customers. Administrative and general costs are allocated in a variety of ways according to allocated direct costs. (*Id*., p. 8.)

For public fire costs, the Company's proposed studies include assumptions concerning the level of fire flow for each district. These assumptions range from a high of 16,000 gallons per minute ("gpm") for 10 hours for Zone 1 down to 2,500 gpm for 2 hours for Lincoln, with other districts falling between these extremes. (IAWC Response to Data Request AG 2.18.) The Company states that the flow data for all systems except Zone 1 were based on hydrant flow data from Insurance Services Office, Inc. For Zone 1, the Company relied on flow requirements recommended by the National Board of Fire Underwriters (now the American Insurance Association). For calculating durations, the Company relies on the Grading Schedule for Municipal Fire Protection from Table 4 of the Insurance Services office which was furnished by the Company. (IAWC Response to Data Request AG 2.18.) These fire flows appear reasonable because they are based on generally accepted sources of information. In addition, Staff

has not identified any shortcomings in IAWC's calculation of these demands. (Staff Ex. 6.0, p. 9.)

On an overall basis, the Company's proposed allocators for system costs should be considered reasonable because they are consistent with both Commission precedent in Illinois and with cost allocation principles presented in the AWWA's M 1 Manual as IAWC explained in the discovery process. (*Id*., p. 10.)

1. Coincident vs. Noncoincident Peak Demands

Staff does recommend that the Company be ordered in its next rate case to prepare a cost of service study based upon coincident capacity factors. (Staff Ex. 6.0, p. 7.) Such an approach would employ coincident peak demands to allocate system costs that are jointly used by multiple rate classes. (*Id*.) This approach, which is described in Appendix A of the AWWA M 1 Manual, would more accurately reflect how system costs are incurred and send better price signals to ratepayers concerning the impact of their demands on system costs. (*Id*.)

While acceptable for this proceeding, the base-extra methodology is beset by a fundamental problem which calls into question its use over the long term. (*Id*., p. 5.) That problem is the reliance on NCP demands to allocate demand-related costs. (*Id*.) The evidence indicates that many key facilities are built to meet the collective demands of all ratepayers. Thus, their size is shaped by coincident peak ("CP") demands which are the demands by all classes at the time the system peaks. This would indicate that the Company's exclusive use of NCP demand to allocate these costs is misplaced. (*Id.*, p. 6.)

For example, the new water treatment plant constructed to serve the Champaign service territory is designed to serve not just individual rate classes but all classes in the district on a collective basis. (*Id*.) The plant must be of sufficient size to meet the collective peak demands of all rate classes in the district, rather than the demands of any individual class. (*Id*.) Thus, CP demands, rather than NCP demands, are the important factor to consider in allocating the plant's costs. (*Id*.)

IAWC witness Herbert argues against any deviation from the NCP approach. He references Staff's discussion of the Champaign treatment plant and while acknowledging "that the plant is designed to meet the collective peak demand," Mr. Herbert insists that "[e]ach classification benefits from having a diverse system and therefore should share proportionately based on their non coincident demands." (Staff Ex. 13.0, p. 24.)

Mr. Herbert's argument confuses the issue. The focus of a cost study should not be on who should share in system benefits, but rather on who is responsible for system costs. (*Id*.) As Mr. Herbert admits, the plant is designed to serve the collective peak demand of rate classes. (*Id*.) If one class has significant demand at the time of system peak, then it is an important contributor to the cost of that plant. If another class has the same non-coincident peak demand, but uses water mainly when other classes do not, it makes a correspondingly smaller contribution to that plant's cost. (*Id*., p. 25.) It defies basic cost principles to give equal weight to the peak demands of these two classes in allocating the cost of this plant.

Mr. Herbert also claims that a CP approach "would be much more subjective than estimating non-coincident demands." He contends that "[f]or non coincident

demands, one can study the pattern of usage for each class based on actual billing records and system delivery over the course of several months of data. However, for coincident demands, one would have to estimate what each class' usage was on a specific day." Mr. Herbert argues that "would be especially difficult if the peak day occurred on a weekend, when a portion of the non-residential demand may not have any consumption at all." (IAWC Ex. 9.00R1, p. 4)

The Commission can be assured that CP demands have been used to develop reasonable cost allocations for many decades by both electric and gas utilities in Illinois. It is not clear why the water industry should be considered so unique that different rules must apply to the determination of peak demands and the allocation of costs. That appears to be Mr. Herbert's argument and it should be rejected. (Staff Ex. 13.0, pp. 25-26.)

2. Minimum System

The Company proposal to use a minimum system approach in the development of customer charges is contrary to longstanding Commission policy and should be rejected. IAWC witness Herbert justifies the use of the minimum system by noting Commission Orders in previous cases that allowed utilities "to recover 80% of their 'fixed delivery service' costs through the customer charge." Mr. Herbert implies that the minimum system is consistent with these decisions because it considers those fixed delivery services costs to be "investment in mains that connect all customers as well as other costs that do not vary with volume of service delivered." (IAWC Ex. 9.00R1, p. 6.)

This argument is clearly deficient. Past Commission decisions to recover 80% of fixed costs in the customer charge should not be construed in any way as recognition that a component of main investment serves to connect customers to the system which is the argument of minimum system advocates. (Staff Ex. 13.0, pp. 19-20.) Rather, the Commission decision seeks to recognize that these are sunk costs which will not vary once they are incurred. (*Id*.)

At the same time, the argument for the minimum system remains fundamentally flawed. (*Id*., p. 20.) There is simply no reasonable way to divide distribution mains into one component that serves solely to connect customers to the system and a second component that reflects the size of the mains necessary to serve their demands for utility service. (*Id*.) There is no identifiable portion of the system that serves solely to connect customers. The costs expended to connect customers are also spent to meet their demands and, from a cost allocation standpoint meeting those demands is the most important consideration. Thus, the minimum system is unreasonable from a cost perspective standpoint. (*Id.*)

It should be noted that Staff and the Commission have consistently rejected all proposals to adopt a minimum distribution for ratemaking for any utility in Illinois and this specific argument by IAWC provides no reasonable basis for the Commission to reverse this longstanding position. (*Id*.)

Thus, the specific customer charge proposed by IAWC should be examined on the evidence presented. However, one factor that should not be considered in evaluating this charge is the Company's minimum system argument which fails to accurately reflect costs.

3. Class Revenue Allocation and Rate Design

The problems with the Company's proposed maximum day and maximum hour demand factors are of sufficient magnitude to undermine the accuracy of the Company's cost study results for the reasons previously discussed in this brief. Thus, in the absence of an accurate cost of service study, the most reasonable approach is to allocate any revenue change among rate classes on an equal percentage, across the board basis. (Staff Ex. 13.0, p. 18.) That approach recognizes that no reasonable basis has been established for increasing revenues for any individual class more or less than other rate classes in each of the IAWC's divisions. So, the impact of any rate changes should be equalized for the various rate classes through an across-the-board, equal percent change for class revenue allocations. (*Id*.)

As far as rate design is concerned, the specific proposals presented by each party should be evaluated on its individual merits. (*Id*.) Those proposals are not necessarily tied to the specific outcome of the Company's cost of service studies filed in this case but rather reflect more general approaches to reflecting costs in the design of rates. *(Id.)* The process could still benefit from consideration of each of these proposals even with the deficiencies in IAWC's cost of service studies. (*Id*., pp. 18-19.)

VI. RATE DESIGN AND TARIFF TERMS AND CONDITIONS

A. Introduction

Several issues were raised during the course of the instant proceeding. Staff raised and presented its positions for both rate design and tariff terms and conditions. Some issues were resolved between Staff and the Company; a few issues remain contested. The following discussion addresses both resolved and contested issues.

B. Public Fire Charges and Rate

In direct testimony, IAWC witness Herbert recommended an increase in public service charges of 32.2% (roughly a 100% recovery of cost of service) and 35.5% (a 77% recovery of cost of service) for the Pekin and Lincoln water districts, respectively, which recover a reasonable level of the cost to provide public fire protection, and an increase of 75.0% (a 67% recovery of cost of service) for the Chicago Metro Water District. (IAWC Ex. 9.00, p. 22.) Furthermore, Mr. Herbert stated that, "[t]he 75.5% increase represents less than half of the updated cost of service for this rate area as shown in IAWC exhibit 9.01." (*Id*.) Staff witness Rukosuev accepted the Company's request to increase public fire protection charges in order to align revenues closer to costs associated with providing fire protection service for each district. (Staff Ex. 5.0, p. 38.) Mr. Rukosuev explained that to align revenues closer to costs associated with providing fire protection service for each district is consistent with the directive of Section 9-223(a) of the Act, 220 ILCS 5/9-223(a), which states, in relevant part, that: "Any fire protection charge imposed shall reflect the costs associated with providing fire protection service for each municipality or fire protection district." (*Id*.)

C. Champaign and Sterling Consolidation with Zone 1

The Company proposed to add the Sterling and Champaign service territories into the current SPSPSB (now known as Zone 1) single tariff pricing (STP) group. (IAWC Ex. 5.00 (Rev.), p. 19.) From the Company's perspective, the underlying costs of service are similar regardless of the physical location of the customers. (*Id*.) IAWC stated that it uses similar meters, incurs similar costs to read the meters, sends bills from the same corporate location and oversees the operations with the same corporate employees. (*Id*.)

Because of the proximity of Sterling to other Zone 1 Districts and the similarity in the unit cost of service between Sterling and Zone 1 customers, Staff witness Boggs recommended approval of the consolidation of Sterling into Zone 1, which would allow IAWC to move closer toward STP for all of its rate areas. (Staff Ex. 7.0, p. 7.) Furthermore, Mr. Boggs noted that the Commission has supported the gradual movement toward STP in prior IAWC rate cases (Docket Nos. 00-0340, 02-0690 and 07-0507). (*Id*.)

Staff witness Boggs also recommended approval of moving Champaign into the Zone 1 STP group as the Company proposed in Alternative 3A. (*Id*.) He testified that the addition of Champaign into Zone 1 would provide benefits to customers in all districts within Zone 1 concerning rate impact issues that would result from future construction and replacement projects necessary to serve Zone 1 customers. (*Id*.) Mr. Boggs also stated that having a larger customer base over which to spread plant and operating expense costs would mitigate the potential for future large rate increases that would be more prevalent on a district specific basis. (*Id*.)

D. Tinley Park Wholesale/Westbury

IAWC witness Herbert recommended a flat per user monthly charge for Treatment Only (wholesale) customers Tinley Park and Tinley Park West. (IAWC Ex. 9.00, p. 23.) The Company proposed to include on its Tenth Revised Sheet No. 37 the rates and references to Tinley Park Wholesale and Tinley Park Westbury and its associated areas. (*Id*.) Staff witness Rukosuev objected to IAWC's proposal because the agreement for service between the Company and Tinley Park and Tinley Park West is considered wholesale service, which is not regulated by the Commission. (Staff Ex. 5.0, pp. 46-47.) Therefore, Mr. Rukosuev recommended that the Company's proposed language be rejected because matters related to wholesale service agreements should not be included on tariff sheets that are regulated and approved by the Commission. (*Id*.)

In rebuttal testimony, IAWC witness Grubb stated that, "[t]he Company does not oppose Staff's recommendation to not include on the Tenth Revised Sheet No. 37 the rates and references to Tinley Park Wholesale and Tinley Park Westbury." (IAWC Ex. 5.00R1, p. 3.)

Moreover, on December 8, 2009, the Village of Tinley Park filed in this proceeding, the "Stipulation of the Village of Tinley Park and Illinois American Water Company ("Stipulation"). Among other things, Tinley Park and the Company stipulated that, "Illinois American Water Company reaffirms its lack of opposition to Illinois Commerce Commission Staff's recommendation to not include on the Tenth Revised Sheet No. 37 the rates and references to Tinley Park Wholesale and Tinley Park Westbury and its associated areas because said rates are governed by a wholesale agreement for services." (Stipulation, p. 3.)

E. Champaign/Lincoln Monthly Billing

Currently, the customers in the Champaign and Lincoln districts are billed bi-monthly. (Staff Ex. 7.0, p. 29.) The Company proposed to convert the customers of these two districts to monthly billing as part of its continuing effort to move toward STP and to provide consistency and uniformity among the Company's tariffs. (*Id*.) This would allow customers in these two districts to better budget for their monthly water expenses and monitor their monthly usage. (*Id*.) Because the Commission has encouraged the Company to move toward STP, tariff uniformity and consistency among its tariffs in past rate cases, Staff witness Boggs stated that uniform monthly billing is reasonable and he recommended that it be approved. (*Id*., pp. 29-30.)

F. Non-residential Declining Block Structures

IAWC witness Herbert recommended that the rate design parameters under Alternative 3A be adopted in this rate case. One of the key features of this alternative is the retention of the declining block structure for the non-residential class. (Staff Ex. 5.0, p. 4.) Mr. Herbert stated that, "For non-residential customers, a declining block rate structure reflects that larger customers generally have better load factors and such usage can be appropriately priced at a lower rate. This is why the declining block structure was retained for non-residential customers." (IAWC Ex. 9.00, p. 16.)

Staff witness Rukosuev testified that, "since non-residential customers have better load factors (i.e., a better relationship between peak demand and average annual demand), usage can be appropriately priced at a lower rate, and better reflect the cost of service characteristics for that class." (Staff Ex. 5.0, p. 7.) Therefore, Staff witness Rukosuev accepted the Company's retention of a declining block rate structure for the non-residential customers. (*Id*.)

G. Pekin Industrial Customer Class

Staff witness Rukosuev agreed with the Company's proposed one-block rate structure for residential customers and maintaining a declining block rate structure for non-residential customers for the Pekin district. (Staff Ex. 5.0, p. 8.) Mr. Rukosuev, however, disagreed with the Company's rates proposal by class for the Pekin District, and maintained that a likely area of concern is the 100% Customer Class Cumulative Billing Frequency – Industrial. (Staff Ex. 5.0, pp. 21-22; Staff Ex. 12.0R, p. 7.) According to Mr. Rukosuev, this class would experience a significant increase in both percentage and absolute dollar terms under the Company's proposed rates. (Staff Ex. 12.0R, pp. 7-8.) IAWC witness Herbert responded by arguing that such mitigation is unwarranted because the 100% Customer Class Cumulative Billing Frequency (highest usage) – Industrial represents very few customers with high usage levels. (IAWC Ex. 9.00R1, p. 14.)

However, Staff witness Rukosuev explained that, "Although the Industrial class high usage customers consume a significant amount of water, a fact with which I do not take issue, applying the Company's proposed non-residential rates results in an average of $22,239 increase in a monthly bill, which I consider to be significant." (Staff Ex. 12.0R, p. 8.) Therefore, in the interest of gradualism, Mr. Rukosuev proposed slightly lower rates to the 4th block in order to alleviate the considerable rate shock to high users in the non-residential Pekin industrial class. (*Id*., p. 9.) In the process of lessening the rate shock to the extent possible for these high use industrial customers, Mr. Rukosuev shifted revenues to other rate classes. (*Id*.) The resulting mitigation measures reduced bill impacts for the 100% Customer Class Cumulative Billing Frequency– Industrial from $22,239 to $11,601 per month. (*Id*., pp. 9-10.)

In the interest of narrowing the issues in this proceeding, while "not agree[ing] that the increase to the 100% customer class billing frequency for the Pekin industrial class constitutes rate shock," IAWC witness Grubb accepted Mr. Rukosuev's redesign of Pekin industrial class rates. (IAWC Ex. 5.00SR, p. 17.) Furthermore, according to IAWC EXHIBIT 9.00SR (Rev.), Mr. Herbert removed lines 39-46, thereby effectively eliminating his earlier objections to Mr. Rukosuev's mitigation measures for Pekin 100% Customer Class Cumulative Billing Frequency– Industrial.

H. Pekin 5/8" Customer Charge

IAWC Exhibit 9.02 shows that the Pekin rate area has similar customer costs per monthly bill to those in Zone 1. (Staff Ex. 7.0, pp. 8-9.) Therefore, the Company proposed to implement the same Zone 1 customer charges in the Pekin rate area. (*Id*., p. 9) Similar costs to provide water service throughout the rate areas should require similar charges to all customers of those rate areas so the Company could recover no more and no less than those costs. Uniform customer charges are another step toward STP, which the Commission has supported in past rate cases. (*Id*.) Consequently, Staff witness Boggs recommended that the Pekin rate area customers have identical customer charges to those in Zone 1 due to cost of service similarities and, therefore, recommended the monthly customer charge be set at $14.50. (*Id*., p. 15.)

I. Customer Count

Mr. Grubb testified that the billing system was double counting some residential customers throughout the Company. (IAWC Ex. 5.00R2, pp. 15-16.) This was caused during the set-up of a new customer in the customer service system, when certain utility code fields (a "W" for water service and a "U" for unmetered service) were automatically populated. If, during the customer set-up process, the utility code "U" is not turned off,

the customer (as happened in this instance) is counted twice, once for being a water customer and once for being an unmetered customer. (*Id*.) Mr. Grubb stated that correct customer counts are essential to the Company's ability to calculate accurate costs and revenues. (*Id*.)

Staff witness Boggs recommended that the Company revisit the detailed review of its customer billing system to assure inadvertent double counting of residential customers caused by a coding issue in the billing system has been corrected. (Staff Ex. 14.0RC, p. 10.) The Company agreed to revisit the issue to assure that the inadvertent double counting of residential customers had been corrected. (IAWC Ex. 5.00SR, p. 18.)

J. Reconnection Charges

In the Commission's Order in Docket No. 07-0507, IAWC was ordered to submit a report regarding after-hours reconnections by district. IAWC witness Grubb presented this report (IAWC Ex. 5.05), which showed the after-hours reconnections by district and the fees charged. Based on its review of after-hours reconnections, the Company believes that a uniform reconnection charge is appropriate for after-hours reconnections. (Staff Ex. 5.0, p. 42.) Therefore, based on the updated cost analysis as shown on IAWC Ex. 5.06, IAWC proposed a uniform charge of $138 per after-hours reconnection for all rate areas, which represents the average cost of an after-hours reconnection for all rate areas. (*Id*., pp. 42-43.)

Staff witness Rukosuev agreed with Company's recommendation that a uniform after-hours reconnection charge be set at $138. Mr. Rukosuev explained that:

> Uniformity benefits customers, the Company and the Commission. Charges that are more easily understood benefit customers. When Company charges, practices and policies are uniform, efficiency in

operations result where employees can better and quicker respond to customer needs.

(Staff Ex. 5.0, p. 43.)

K. Home Inspection Fee

In its Order in Docket 07-0507, the Commission directed IAWC to review the $25 home inspection fee for all districts. (IAWC Ex. 5.00 (Rev.), p. 27.) According to Company witness Grubb, IAWC performed such a review and determined that customers are not requesting home inspections, that is, no home inspections were conducted over the past three years. Therefore, IAWC proposed that the home inspection fee be eliminated for all rate areas. (*Id*., p. 28.)

Mr. Rukosuev reasoned that, based on the information provided by Company witness Grubb, it was logical to eliminate such a fee if no customers were using the service. (Staff Ex. 5.0, p. 44.) Therefore, Mr. Rukosuev recommended that the $25 home inspection fee be eliminated for all districts. (*Id*.)

L. Tariff Language Changes

The Company proposed a range of language changes as follows:

Location	Proposed Language Changes
Sixth Revised Sheet No. 37	"per 1,000 gallons" is deleted from under the first column "category" and moved to the 2nd and 3rd columns.
Fifth Revised Sheet No. 38	"per 1,000 gallons" is deleted from under the first column "category" and moved to the 2nd column.
Fourth Revised Sheet No. 40	Under "Customer Charge", the word "not" is deleted.
Fifth Revised Sheet No. 47 Twenty-sixth Revised Sheet No. 19 Twentieth Revised Sheet No. 14 Twenty-eight Revised Sheet No. 11 5th Revised Sheet No. 1.2 Ninth Revised Sheet No. 13	Under "Reconnection Charges", $138 is added instead of the phrase "the actual cost incurred by the Company".

Third Revised Sheet No. 59 Thirty-fifth Revised Sheet No. 8	Under "Usage Charges", for residential customers a one-block usage rate is set, and for all other customers, declining-blocks are added or modified.
Third Revised Sheet No. 77	Under "Reconnection of Service", $138 is added instead of the phrase "the actual cost incurred by the Company".
Sixteenth Revised Sheet No. 2.7	The following changes are proposed: **ADDITIONAL ~~BI~~MONTHLY CUSTOMER CHARGE FOR MUNICIPAL FRANCHISE FEES** ~~Pursuant to the Commission Order in Docket No. 89-0176, t~~ There shall be added to the bills of each customer residing within the particular City or Village a ~~bi~~monthly charge for recovery of the municipal franchise fees paid by the Company to the respective City or Village.
Fifteenth Revised Sheet No. 1	The following two changes are proposed: 1) **~~Available For~~** ~~Residential, Commercial, Industrial and Public Service in the areas indicated, except where service is provided under the terms and conditions of agreements approved by the Commission.~~ 2) Under "Usage Charges", for residential customers a one-block usage rate is set, and for non-residential customers, declining-blocks are modified
Sixth Revised Sheet No. 1.6	1) Under "Charges for Water Used", usage blocks are set for residential customers and non-residential customers. 2) Under "Basic Service Charge", the

	Company deleted the phrase Bi Monthly.
Fifth Revised Sheet No. 3.1	The section "Bi Monthly Rates" is deleted.

Staff witness Rukosuev testified that the Company's proposed language changes add clarity and consistency across the tariff sheets. (Staff Ex. 5.0, p. 46.) Therefore, Mr. Rukosuev recommended adoption of the Company's proposed tariff language changes. (*Id*.)

M. Single-block Residential Rate Structure

IAWC witness Herbert recommended that the rate design parameters under Alternative 3A be adopted in this rate case. (IAWC Ex. 9.00, p. 13.) One of the key features of this alternative was adoption of a one-block rate structure for the residential class.

The Company proposed the one-block rate structure for the residential class in all rate areas including Zone 1, which, according to the Company, better reflected the cost of service for the residential customer class. (Staff Ex. 5.0, p. 5.) Therefore, a high usage customer would not be subject to lower usage rates under a second block. (*Id*.) The advantage of having a single-block rate for residential usage, the Company believed, was that this would essentially discourage excessive residential lawn irrigation and mitigate summer peak demand. (*Id*.)

Staff witness Rukosuev considered a one-block structure for residential customers to be reasonable. (Staff Ex. 5.0, p. 7.) He stated that a single-block rate structure would better reflect the residential class' cost of service since that class had a poor load factor. (*Id*.) In addition, a single-block structure would provide simplicity, that

is, a less complex rate structure that can be easily understood by customers and provide an incentive to conserve water through a usage-based price signal. (*Id*.) Furthermore, a single-block structure would provide a sense of predictability and more stability in revenues for the Company. (*Id*.)

Accordingly, Staff witness Rukosuev recommended that the Company's proposal of a one-block rate structure for the residential customer class be approved. (*Id*., p. 8.)

N. Private Fire Charge

Company witness Herbert recommended increasing private fire rates in all districts, except for Chicago Metro Water, in order to align revenues closer to cost. Mr. Herbert stated that at that time the private fire revenues did not sufficiently recover cost of service. (IAWC Ex. 9.00, p. 15.)

Staff witness Boggs did not take issue with IAWC's proposed Private Fire Protection charges in Zone 1, including Sterling and Champaign.

Staff witness Rukosuev explained that the Company was not proposing an increase for Chicago Metro Water rates because the Company was recovering 138% of cost of service in that water district. (Staff Ex. 5.0, p. 40.) Mr. Rukosuev maintained that the private fire service rates for Chicago Metro be left unchanged. (*Id*.)

In order to align revenues closer to cost, Mr. Rukosuev recommended approving IAWC's request to increase private fire protection charges in the areas Pekin and Lincoln. As stated earlier, such rationale is consistent with Section 9-223(a) of the Act. (*Id*., pp. 40-41.)

During cross-examination, Staff witness Rukosuev was questioned regarding the Chicago Metro Water rate area private fire charges. Counsel appeared to take issue with Staff's private fire protection charges, particularly that the Company would collect

more than the cost of providing such services. (Tr., December 10, 2009, p. 592.)

While Staff witness Rukosuev is sympathetic with the various municipalities' concerns, their position appears to be based upon a presumption, which is that Staff's private fire protection charges should only be based on the cost of service study. However, this is not the case. As Mr. Rukosuev explained:

> Furthermore, I agree with the Company's proposal that the private fire service rates for Chicago Metro should be unchanged. Obviously, an increase in rates is not warranted. However, **I believe that the rates should not be decreased, either, because, significant increases are being proposed in other charges that could have a major impact on the levels of other districts' bills. If private fire rates were to be decreased in this case, that would require even greater increases in other charges and thereby create even more adverse bill impacts for certain customers.** To reduce this potential problem I support maintaining private fire protection rates at current levels.

(Staff Ex. 5.0, p. 41.) (Emphasis added.)

Accordingly, Mr. Rukosuev recommends that the Commission maintain private fire protection rates at current levels for the Chicago Metro rate area and accept the Company's proposed increases for the Pekin, and Lincoln rate areas.

O. Proposed Customer Charge

Company witness Herbert proposed the following 5/8" meter customer charges: $16.00 for Zone 1 (Alton, Cairo, Interurban, Peoria, Streator and Pontiac), including Pekin and Sterling; $14.00 for Champaign; $13.50 for Chicago Metro Water; $10.50 for Lincoln; and $10.40 for South Beloit. (IAWC Ex. 9.0, p. 13.)

Staff witness Boggs recommended customer charges as follows: $14.50 for Zone 1, including Sterling and Champaign; $14.50 for Pekin; $13.50 for Chicago Metro Water; and $10.50 for South Beloit and Lincoln. (Staff Ex. 7.0, p. 15.) In accordance with the Commission's stance on moving toward STP, Mr. Boggs recommended

approval of the Company's proposals to gradually achieve uniform customer charges throughout all IAWC rate areas. (*Id*., p. 13.) According to Mr. Herbert's direct testimony, to achieve complete customer charge uniformity throughout all IAWC rate areas, the aggregate state-wide customer charge for 5/8" meters would need to be $18.14 per customer. (IAWC Ex. 9.00, p. 13.) However, Mr. Boggs did not recommend complete customer charge uniformity in this rate case because the customer charge in some rate areas would increase by approximately 100%. (Staff Ex. 7.0, p. 13.)

With respect to Staff witness Boggs' recommendation that Champaign be included in the Zone 1 STP group, he also recommended that Champaign customer charges mirror those of all other Zone 1 customers. (*Id*.) His recommendation relied upon IAWC Exhibit 9.02, which showed that the costs the Company incurred to provide service to customers in Zone 1 were similar throughout the rate areas. (*Id*.) Mr. Boggs stated that similar costs to provide water service throughout the rate areas should require similar charges to all customers of those rate areas so the Company could recover no more and no less than those costs. (*Id*., pp. 13-14.) Mr. Boggs also explained that although Champaign's 5/8" meter customers would experience a higher percentage increase in customer charges than other Zone 1 5/8" meter customers if this rate proposal were approved, they would benefit from having the costs of capital improvements spread amongst a much larger customer base. (*Id*., p.14.) As stated above, Mr. Boggs recommended that the customer charge for Champaign 5/8" meter customers should be $14.50.

Staff witness Boggs opined that South Beloit should be excluded from having customer charges that are uniform with the rest of the Zone 1 rate areas because

current customer charges for the South Beloit rate area are the lowest in the Company. (*Id*., pp. 16-17.) He stated that uniform customer charges for all Zone 1 rate areas at this time would likely result in rate shock for South Beloit customers. (*Id*., p. 17.) Furthermore, the potential for increased billing delinquencies and the accompanying increase in Company collection efforts would most likely go along with the increased rates. As such, Mr. Boggs recommended that South Beloit customer charges be set at $10.50 for this rate case and gradually be increased in future rate cases with the goal of an eventual uniform statewide customer charge. (*Id*., pp. 15, 17.)

Mr. Boggs also recommended that the Company recover more of its fixed costs through the customer charge. (*Id*., p. 14.) As noted above, the aggregate state-wide customer charge to recover 100% of the Company's fixed costs is $18.14 per customer according to Mr. Herbert's testimony. (IAWC Ex. 9.00, p. 13.) Because the Commission has supported the recovery of fixed costs in the customer charge and has also approved recovery of fixed costs in the customer charge of 80% for certain gas utilities in Illinois, Staff witness Boggs recommended that 80% of the Company's statewide customer costs of $18.14 per month, or $14.50, be the maximum customer charge for 5/8" meter customers in each rate area of IAWC. (Staff Ex. 7.0, p. 14.)

P. Bill Impacts

1. Alton, Cairo, Peoria, Pontiac, Champaign and Sterling Rate Areas

Staff witness Boggs concluded that for the Alton, Cairo, Peoria and Pontiac rate areas there may be rate shock among the residential class at 100% usage level because these high use customers may experience 50% to 70% overall bill increases. (Staff Ex. 7.0, pp. 21-26.)

For the Champaign rate area, Mr. Boggs concluded that the non-residential class had higher bill impacts than the residential class. He further concluded that there may be rate shock among the non-residential class having meter sizes of one inch or greater and customers who use over 4000 ccf per month. His analysis indicated that such customers may experience a 63.98% overall increase at their current usage level. (*Id*., pp. 23-25.)

For the Sterling rate area, Mr. Boggs noted that the results of his bill impact analysis showed a wider range of distribution of the proposed rates throughout customer classes and across usage levels. (*Id*., p. 27.) The customers with the lowest usage levels would have increases ranging from 24.25% to 48.65%, which closely reflected the Company's overall rate percentage increase. *(Id*., pp. 27-28.) However, customers using over 65 ccf would experience the most notable increases. (*Id*., p. 28.) Mr. Boggs indicated that customers in the highest use residential and non-residential classes would experience rate shock due to their usage levels. (*Id*.)

Company witness Herbert stated in his rebuttal testimony that the bill impacts were high only for those customers with larger meter sizes due to the fact that the existing customer charges for the larger meter sizes were relatively low. (IAWC Ex. 9.00R1, p. 12.) Customers with smaller meters such as 5/8" did not experience large increases. Mr. Herbert also stated that:

> I believe rate mitigation is properly focused on usage levels up to the average bill, or possibly up to twice the average to account for larger families and certain discretionary usage. I do not believe mitigation is required for customers at the 100% level. At the 100% level, there are few customers affected.

(*Id*., p. 10.)

Staff witness Boggs recommended the proposed uniform usage rates for the Alton, Cairo, Peoria, Pontiac, Champaign and Sterling rate areas be approved, while also recognizing that the high volume users would experience rate shock. (Staff Ex. 7.0, pp. 21-29.) The usage rates that have been proposed in the Zone 1 rate areas by Staff should not be set to accommodate the high volume classes alone for residential or non-residential customers. (*Id*.) There are a low percentage of customers that are at these levels of water usage. (*Id*.) While some of these bill increases would be high, proper price signals would encourage water conservation among the high volume users. (*Id*.)

2. Lincoln, Pekin and Chicago Metro Rate Areas

In response to Staff Data Request PR 1.01, the Company presented an analysis of the bill impacts associated with its proposed rates. (Staff Ex. 5.0, p. 8.) The results indicated that the proposed increases would not be evenly distributed among retail customers under the Company's proposed rates. (*Id*.) That result was logical given that the Company was proposing new rates based on cost of service, as opposed to an across-the-board increase. (*Id*.) Therefore, some classes of customers would receive a monthly bill impact higher than the Company's proposed total revenue requirement percent increase while others would receive a lower monthly bill impact than the Company's proposed total revenue requirement percent increase. (*Id*.)

In response to Staff Data Request PR 1.02, Company witness Grubb indicated that the Company did not believe that it was proposing any rate increase that constituted rate shock. (*Id.*, p. 9.) Furthermore, in response to Staff Data Request PR 4.01, the Company stated that the Lincoln, Pekin and Chicago Metro Districts did not

have increases that were deemed to be significantly greater than the overall increase in the revenue requirement. (*Id*.) Therefore, the Company decided that specific mitigation measures were not necessary. (*Id*.)

However, Mr. Rukosuev pointed out that some rate areas and their associated customer classes may nevertheless experience sizeable monthly dollar impacts. (*Id*., pp. 8-9.) In rebuttal testimony, Company witness Herbert objected that some bill impacts, as mentioned in Mr. Rukosuev's direct testimony, constituted rate shock. According to Mr. Herbert, the Company was not proposing any rate increase that constituted rate shock. (IAWC Ex. 9.00R1, pp. 14-16.) Furthermore, Mr. Herbert disagreed that mitigation was warranted, since the 100% customer class billing frequency (highest usage) represented very few customers. (*Id*., p. 14). Staff witness Rukosuev disagrees with Mr. Herbert and believes that significant rate shock will occur in some instances as a result of the Company's proposed new rates.

Mr. Rukosuev proposed mitigation measures to alleviate bill impacts for Pekin the 100% Customer Class Cumulative Billing Frequency – Industrial and Chicago Collection & Treatment rate areas. As stated Mr. Rukosuev stated,

> Most of the reduction came about as a result of a lower revenue requirement proposed by Staff. However, I did propose some specific mitigation measures for Pekin and Chicago Collection &Treatment rate areas. As mentioned earlier in my testimony, I have reduced the 4th usage block for Pekin's non-residential class. Also, I have reduced the 2nd usage block for Chicago Collection &Treatment Commercial class.

(Staff Ex.12.0R, p. 15.)

The resulting mitigation measures lowered bill impacts for the Pekin Industrial class from approximately 43.80% to 31.30%. Also, for the Chicago Collection &

Treatment rate areas, the mitigation measures resulted in bill impacts of approximately 42.41%, 82.93%, 42.25% for the residential, commercial and industrial classes respectively, down from 55.97%, 128.92%, and 56.26% respectively. (*Id*., p. 16.*)*

IAWC witness Herbert ultimately withdrew his objection to such mitigation measures. (IAWC Ex. 9.00SR (Rev.), p. 2.)

Q. Chicago Metro Sewer Rate Increase

The Company proposed a rate increase of 63.5% for Chicago Metro Sewer in order to closer align revenues to costs. (Staff Ex. 5.0, pp. 31.) The Company also proposed to change the rate structure in the Chicago Metro Sewer District for Residential and Non-Residential customers who fall under the tariff for Sewer Collection and Treatment Services. The Company proposed to move to a single block and a two block consumption charges, respectively, for these customers.

Staff witness Rukosuev accepted the Company's rates design proposal for the Chicago Metro Sewer District which included a one-block rate structure for residential customers and maintaining a declining two-block rate structure for non-residential customers. (*Id*., p. 33.) However, Mr. Rukosuev disagreed with the Company's rate proposal for the Chicago Metro Sewer District since the Company's proposed charges were based on its revenue requirement, and Mr. Rukosuev's proposed rates were based on Staff's proposed revenue requirement. (*Id*.)

Furthermore, Mr. Rukosuev explained that:

> [t]he cost of service for Collection and Treatment service is $9,401,707, whereas the Company currently is recovering only $4,257,096 at the present rates, or 39.0% recovery of cost of service. (IAWC Ex. 9.01, Schedule A-CMWW, CMWW-1.) Therefore, in order to align revenues closer to costs, an increase in sewer rates is necessary, and in some cases, as bill impact analysis shows, produces significant increases for

> high volume users. Overall, the effect of the changes varies depending on the level of water use, size of meter, service classification and other factors.

(*Id*., p. 37.)

IAWC witness Herbert disagreed that the bill impacts for the Chicago Metro Sewer District constituted rate shock. (IAWC Ex. 9.00R1, p. 16.) In response to Mr. Rukosuev's mitigation measures for the Chicago Metro Sewer District, Mr. Herbert stated that, "[I] discuss in my direct testimony (pages 22-23), the Company's proposed sewer rate design is intended to realign revenues with the cost of service in a manner that does not constitute rate shock. I therefore do not believe mitigation is warranted." (*Id*.)

Mr. Rukosuev proposed sewer rates that were developed according to his across-the-board decrease method that recovered the revenue requirement proposed by Staff in this proceeding. (Staff Ex. 12.0R, pp. 11-12.) However, Mr. Rukosuev did propose one exception to this across-the-board decrease approach. Mr. Rukosuev altered the 2nd block non-residential usage rates (manually) from $ 3.3361 to $2.6689, and a portion of the revenues that was lost was shifted to the residential class single block usage rates. (*Id*., p. 12)

The starting point for Staff's proposed rate design was to apply an across-the-board decrease for the Company's proposed rates. (*Id*., p. 16.) As stated above, although the Company initially proposed rate increases in order to align revenues closer to cost, such a move should not come without an attempt to mitigate rate shock where possible. (*Id*.) Therefore, consistent with his rate design objectives such as bill impacts, gradualism and rate shock mitigation, Mr. Rukosuev shifted a portion of the

revenues to the residential class single-block usage rates in an effort to alleviate significant rate increases to the non-residential (commercial) customer class without an adverse impact to other classes. (*Id.*)

R. Across-the-board Adjustment

The Company proposed charges based on its revenue requirement, whereas Staff witness Rukosuev's rates were designed to recover the revenue requirement proposed by Staff. (Staff Ex. 12.0R, p. 4.) In rebuttal testimony, Staff witness Rukosuev developed a set of rates that he recommended be adopted by the Commission, assuming it agrees with Staff's revenue requirement. Rates were developed according to Mr. Rukosuev's rate design objectives. Mr. Rukosuev stated that, "My rate design objective is to develop a set of rates that reflects the cost of providing utility service to customers that is balanced with consideration of other ratemaking principles such as bill impacts, rate shock and gradualism." (*Id*., p. 5.) Also, Mr. Rukosuev incorporated other revenue requirement considerations into his rate design, while continuing to balance his rate design objectives. *(Id.*)

For example, Staff witness Lazare, in rebuttal testimony, recommended that the Company's cost of service studies not be used to allocate the revenue requirement among rate classes. *(Id*.) Instead, he stated that, "The most reasonable approach under these circumstances is to allocate any revenue change among rate classes on an equal percentage, across the board basis." (Staff Ex. 13.0, p. 18.) Mr. Rukosuev applied an across-the-board, with some exceptions, (on an equal percentage basis) reduction on the Company's proposed consumption rates in order to generate new Staff proposed consumption charges. (Staff Ex.12.0R, p. 5.) Charges that were not reduced across-the-board were: customer charges (accepted Staff witness Boggs'

recommendation for 5/8" customer meter charges); public and private fire charges (accepted Company's proposed charges); and 100% Customer Class Cumulative Billing Frequency Prekin– Industrial, and Chicago Collection & Treatment 2nd block non-residential usage rates. Mr. Rukosuev incorporated an across-the-board reduction of rates as much as possible without conflicting with his own rate design objectives.

Mr. Rukosuev's recommended across-the-board approach to adjust rates to reflect the recovery of Staff's proposed revenue requirement for the Lincoln, Chicago Metro Water and Pekin rate areas was not considered appropriate according to Company witness Herbert. (IAWC Ex. 9.00SR (Rev.), pp. 1-2.) Mr. Herbert explained that:

> Mr. Rukosuev's method reflects a typical scale-back approach often used to calculate rates under a lower revenue requirement. However his method will not produce the across-the-board increase he seeks according to his testimony. I believe the Company's original rate design should be used and scaled back in order to produce revenues allowed under the Commission's revenue requirement determined in this case. This also will generally move revenues toward cost–of service goals.

(*Id*.)

Mr. Rukosuev, however, reasoned that, "[t]hough the Company initially proposed rate increases in order to align revenues closer to cost, such a move should not come without an attempt to mitigate rate shock where possible." (Staff Ex. 12.0R, p. 16.) Therefore, Mr. Rukosuev maintains his position with regard to his applied method and objects to Company witness Herbert's assertions.

S. Recovery of Overall Revenue Requirement

Mr. Rukosuev recommended that, were the Commission to adopt a revenue requirement other than that proposed by Staff, then "each block of Staff's usage charges should be adjusted by a uniform percentage to recover the revenue

requirement adopted." (Staff Ex. 12.0R, p. 19.)

Mr. Herbert disagreed and insisted that, "[a]s indicated earlier in my testimony, the Company's originally proposed rate design should be scaledback [sic] to produce the revenues ultimately allowed by the Commission in this case." (IAWC Ex. 9.00SR (Rev.) p. 3.)

Mr. Rukosuev reasoned that any deviation from his recommended rates may unintentionally shift revenues to other classes, mitigating the goal of gradualism, as well as mitigating his attempt to minimize rate shock to some classes. (Staff Ex. 12.0R, p. 18.) Therefore, the recovery of the overall revenue requirement should be evaluated carefully to ensure that it balances consideration of the following rate design factors noted earlier: cost causation, bill impacts, rate shock, and gradualism. (*Id.*, pp. 18-19.) Therefore, Mr. Rukosuev maintained that his proposed rates provide a reasonable balance between cost of service and averting unreasonable bill impacts. (*Id.*, p. 19.)

VII. OTHER ISSUES

A. Pension OPEB

The Company included in the test year costs related to pensions and other post employment benefits ("OPEB") consistent with the applicable accounting rules. However, in Docket No. 09-0400, the Company has also filed a petition with the Commission for an accounting waiver seeking approval to amortize a portion of the pension and OPEB costs commencing in 2009, with deferral of the unamortized balance. The affect of the Company's proposal in Docket No. 09-0400 is not reflected in the test year in this rate case. Therefore, if the Commission grants the Company's

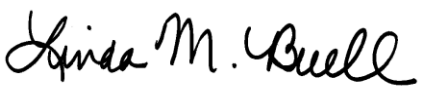
request in Docket No. 09-0400, that would affect the amount of pension and OPEB costs that should be reflected in this rate case. (IAWC Ex. 5.00, pp. 29-30.)

Staff does not take issue with the level of pension and OPEB costs the Company included in the test year, which does not reflect the proposal in Docket No. 09-0400. Staff opposes the Company's request in Docket No. 09-0400 for the reasons discussed in Docket No. 09-0400. However, Staff agrees that if the Commission grants the Company's request in Docket No. 09-0400, the test year pension and OPEB costs would need to be adjusted accordingly.

VIII. CONCLUSION

For the reasons set forth above, Staff respectfully requests that the Commission's Final Order in the instant proceeding incorporate Staff's modifications to the Company's proposed general increase in water and sewer rates as reflected in Appendix A attached hereto.

Respectfully submitted,



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